



Certification of an Integrated ISO 14001 and ISO 50001/SEP System

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Volvo Group North America, LLC

New River Valley Plant, Dublin, VA

Do We Need Another ISO Standard?

- Benefits
 - EnMS creates a legacy where there are management changes every 2-3 years
 - Future general managers will not want to drop the ball
 - Part of creating a “World Class” manufacturing facility with minimal energy footprint
 - Add to energy savings and improved financials for tough manufacturing environment
 - Integration with ISO 14001 EMS was a benefit
- Challenges
 - Front office support is a MUST!
 - Toughest certification of all standards
 - SEP adds to the challenge of certification



Integration with ISO 14001 Database

environmental system : Mixed - North American Trucks - Windows Internet Explorer

environmental system : Mixed - North American Trucks

violin helpsitemap mysite find people search corporate sites

Welcome to North American Trucks

News & Events Business Functions Projects Policies & Strategies Communities Employee Center

Volvo Group > North American Trucks > business functions > departments > New River Valley > functions > departments > environmental system

departments

- customer engineering
- environmental system**
- finance
- health & safety
- human resources
- industrial engineering
- logistics
- NA logistics development
- NAP
- order engineering-sales
- product reliability
- quality
- training
- VPS
- policies & strategies

Energy & Environmental system

View the [Environmental System Database](#) (ISO-14001) **Revised 2011**

View the [Energy System Database](#) (ISO-50001) **New in 2011**

View the [NRV Organizational Charts](#)

related links
MSDSpro »

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Last updated: 7/23/2011
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http://phiconsulting.com/ems/client/volvo/nrv/ Local intranet 100% 2:21 PM



Integration with ISO 14001

The screenshot shows a Windows Internet Explorer browser window displaying the Volvo Environmental, Health & Safety (EHS) website for the Volvo NRV - Dublin, VA. The browser title is "EHS - Volvo NRV - Dublin, VA - Windows Internet Explorer". The address bar shows the URL "EHS - Volvo NRV - Dublin, VA". The page is logged on as "EHS User (Read-Only)".

The website header includes the EHS logo, the text "ENVIRONMENTAL, HEALTH & SAFETY VOLVO NRV, DUBLIN VERSION 2.0", and a navigation menu with "Page", "Safety", and "Tools". A green banner below the header reads "Environmental, Safety and Quality Together — Make a Difference".

The main content area is divided into three columns. The left column features icons for "Environmental" (a recycling symbol) and "Energy" (a lightbulb). The middle column contains three blue boxes with contact information:

- IN PLANT EMERGENCIES: (Security)**
540-674-7777
- ENVIRONMENTAL GENERAL CONTACT #s (non-emergency)**
Stephen Pierett
Environmental Manager
540-674-7730
Michele Lawton
Environmental Coordinator
540-674-7382
- ENERGY GENERAL CONTACT #s (non-emergency)**
Michael Kijak
Facilities Manager
540-674-2230
Chadwick Porter

The Windows taskbar at the bottom shows the Start button, several open applications (Microsoft Outlook, Microsoft Excel, ISO50001 SEP Vo..., EHS - Volvo NRV - ..., WLI Drops | New...), and the system clock showing 2:19 PM on 10/31/2012.



EMS Landing Page

EMS - Volvo NRV - Dublin, VA - Windows Internet Explorer

Logged on as: EHS User (Read-Only) [Login](#)

ENVIRONMENTAL MANAGEMENT SYSTEM
VOLVO NRV, DUBLIN
VERSION 2.0

Home » ISO 14001

Resources
Statement on Energy & the Environment
EMS & EnMS Document Matrix
Roles and Responsibilities
FAQs
Definitions

Environmental
Aspects and WI's by Area
System Procedures
Operational Procedures
Work Instructions - Air
Work Instructions - Asbestos
Work Instructions - Energy
Work Instructions - Materials
Work Instructions - Paint Dept.
Work Instructions - Refrigerants
Work Instructions - Waste
Work Instructions - Wastewater

Legal and Other
Compliance Manual

Emergency Response
Emergency Contact Numbers
Contingency Plans
Emergency Response Plan

Training Tools
Training Materials
Custom Training Checklist
Training Requirements Matrix

Communication
Truck Talk Newsletters
Visitor Guidelines
Presentations, E-mails & Memos
Communication Boards

Document Control
Master Documents List
Master Records List
Forms

Health & Safety
Safety Procedures
Safety Forms

Approval of Products
Approval forms for Chemicals

Contractor Management
Contractor Portal

Project Review Database
Project Review Database

Improvement Initiatives
Env Management Plans (EMPs)

Internal Audit Tools
Custom Audit Checklist
Corrective Action Database
Internal Audit Schedule

Search

Home

Energy

start | Microsoft Outlook | Microsoft Excel | ISO50001 SEP Vo... | EMS - Volvo NRV ... | WLI Drops | New... | 2:18 PM



EnMS Landing Page

The screenshot shows a Windows Internet Explorer browser window displaying the EnMS - Volvo NRV - Dublin, VA landing page. The browser's address bar shows the URL "EnMS - Volvo NRV - Dublin, VA". The page is titled "ENERGY MANAGEMENT SYSTEM VOLVO NRV, DUBLIN" and is logged on as "EHS User (Read-Only)". The page content is organized into several columns of links and sections:

- Resources:** Statement on Energy and the Environment, ISO 50001:2011 Certificate, Superior Energy Performance (SEP) Certificate, EMS & EnMS Document Matrix, Roles and Responsibilities, FAQs, Definitions.
- Energy:** Significant Energy Uses by Area, System Procedures, Operational Procedures, Work Instructions - Ovens, Work Instructions - Energy.
- Legal and Other:** Legal and Other Requirements, Compliance Calendar, Energy Compliance Manual.
- Training Tools:** Training Materials, Custom Training Checklist, Training Requirements Matrix.
- Communication:** Truck Talk Newsletters, Save Energy Now Newsletter, Visitor Guidelines, Presentations, E-mails & Memos, Communication Boards.
- Management Review:** Management Review Presentations.
- Document Control:** Master Documents List, Master Records List, Forms, Visual Aids.
- Contractor Management:** Contractor Portal.
- Project Review Database:** Project Review Database.
- Improvement Initiatives:** Energy Action Plans 2011, Energy Action Plans 2012.
- EnPIs:** EnPI Tool, EnPI Manual, Save Energy Now Rpt Info.
- Internal Audit Tools:** Custom Audit Checklist, Corrective Action Database, Internal Audit Schedule.

On the right side of the page, there is a search bar and a navigation menu with icons for "Home" and "Environmental". The browser's taskbar at the bottom shows several open applications: Microsoft Outlook, Microsoft Excel, ISO50001 SEP Vo..., EnMS - Volvo NRV..., and WLI Drops | New... The system clock indicates the time is 2:16 PM.



Level 1 Procedures – Common Ground with EMS (exc.SP-18)

System Procedures - EnMS - Volvo NRV - Dublin, VA - Windows Internet Explorer

Logged on as: EHS User (Read-Only) [Login](#)

ENERGY MANAGEMENT SYSTEM
VOLVO NRV, DUBLIN

Home » ISO 50001 » System Procedures [Print this Page](#)

System Procedures last revised: 01/04/2012
- PRINTED DOCUMENTS ARE UNCONTROLLED -

ID	TITLE
System Procedures	
SP-01 »	Resources, Roles, Responsibilities and Authorities
SP-02 »	Policy Implementation
SP-05 »	Objectives, Targets & Action Plans
SP-06 »	Competence, Training & Awareness
SP-07 »	Control of Documents and Records
SP-08 »	Operational Control
SP-09 »	Communication
SP-11 »	Monitoring, Measurement and Analysis
SP-12 »	Legal & Other Requirements and Evaluation of Compliance
SP-13 »	Internal Auditing
SP-14 »	Nonconformance, Corrective & Preventive Action
SP-15 »	Management Review
SP-18 »	Energy Review - Energy Uses and Significant Energy Use Determination

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EMS/EnMS Integrated Legal & Other Requirements

TASK	RECORDS
<p>1.01 This procedure defines the mechanism for identifying and maintaining current environmental and energy legal and other requirements applicable to the NRV Plant and for maintaining access to current editions of those requirements.</p>	
<p>1.02 This procedure also provides a mechanism for determining compliance with the environmental and energy legal and other requirements applicable to the NRV Plant.</p>	
<p>1.03 This procedure conforms to Element 4.3.2 Legal and Other Requirements and 4.5.2 Evaluation of Compliance of the ISO 14001-2004 standard and Elements 4.4.2 and 4.6.2 of the ISO 50001-2011/ MSE 50021 standards and SEP M&V Protocol.</p>	
<p>2.01 A current Matrix of Legal and Other requirements is maintained on the EMS/EnMS Website. The matrix is reviewed and updated, as needed, at least annually. An Environmental Compliance Manual and an Energy Compliance Manual provide a summary of Legal and Other Requirements pertinent to the NRV environmental aspects, energy uses, consumption and efficiency.</p>	<ul style="list-style-type: none"> » Compliance Calendar EMS/EnMS Website » SPD-12.01 Environmental Compliance Manual » SPD-12.03 Energy Compliance Manual
<p>2.01.01 This matrix shall include, but is not limited to, legal requirements from Municipal Ordinances, Utility Easements, when applicable, County rules, State laws and regulations, Federal laws and regulations, conditions specified in permits and licenses; and other Volvo corporate, NRV and customer driven requirements.</p>	<ul style="list-style-type: none"> » Compliance Calendar EMS/EnMS Website » SPD-12.01 Environmental Compliance Manual » SPD-12.03 Energy Compliance Manual
<p>2.02 A variety of techniques are employed to access Legal and Other requirements. These include, but are not limited to: internet; commercial services; direct communication with regulatory agencies (Federal, State and Local); corporate communications; information from industry and trade organizations and periodic training.</p>	<ul style="list-style-type: none"> EMS/EnMS Website » SPD-12.01 Environmental Compliance Manual » SPD-12.03 Energy Compliance Manual
<p>2.03 Additional sources such as consultants, law firms and corporate legal counsel may be consulted as needed for further interpretation of Federal, State and Local regulations.</p>	EMS/EnMS Website
<p>2.04 Newly issued or revised legal and other requirements are communicated to Senior Management and site personnel whose work may be affected by the requirements (including contractors).</p>	EMS/EnMS Website



EMS/EnMS With Integrated Objectives, Targets, and Action Plans

TASK	RECORDS
1.01 This procedure defines the mechanism for the establishment, implementation and maintenance of documented objectives, targets and action plans at the relevant functions, levels, processes or facilities within New River Valley (NRV).	
1.02 The Objectives, Targets and Action Plans procedure is responsive to Element 4.3.3 Objectives and Targets of the ISO 14001-2004 standard and 4.4.6 of the ISO 50001-2011/ MSE 50021 standards and SEP M&V Protocol.	<ul style="list-style-type: none"> SPFRM-18.04 Opportunities for Improvement Worksheet
2.01 The energy and environmental objectives and targets shall be defined, maintained and documented by the EMS EMS/EnMS Team (EMS) and the Energy Team (EnMS) or designee (s). The environmental objectives and targets shall be measurable, where practicable. Targets will be consistent with the objectives. Time frames shall be established for the achievement of the objectives and targets.	<ul style="list-style-type: none"> Agendas, Meeting Minutes, And Attendance Sheets SPD-05.01-A3 Environmental Plan SPD-05.02 A3 Energy Action Plan SPFRM-18.04 Opportunities for Improvement Worksheet
2.01.01 The energy and environmental objectives and targets will be consistent with the relative energy and environmental policy.	<ul style="list-style-type: none"> Agendas, Meeting Minutes, And Attendance Sheets SPD-02.01 - NRV Plant Statement on Energy and the Environment SPD-05.01-A3 Environmental Plan SPD-05.02 A3 Energy Action Plan SPFRM-18.04 Opportunities for Improvement Worksheet
2.01.02 Environmental objectives that address the commitment to the prevention of pollution must be included.	<ul style="list-style-type: none"> Agendas, Meeting Minutes, And Attendance Sheets SPD-05.01-A3 Environmental Plan SPFRM-18.04 Opportunities for Improvement Worksheet
2.01.03 When establishing objectives and targets, the following must be considered: Legal and other requirements, significant energy uses and opportunities to improve energy performance as identified in the energy review (EnMS) and its significant environmental aspects (EMS). It shall also consider its financial, operational and business conditions, technological options, and the views of interested parties.	<ul style="list-style-type: none"> Agendas, Meeting Minutes, And Attendance Sheets EMS/EnMS Team and Management Review Meeting Minutes EMS/EnMS Website SPD-05.01-A3 Environmental Plan SPD-05.02 A3 Energy Action Plan SPFRM-18.04 Opportunities for Improvement Worksheet
2.02 Energy Management Action Plans (EnMPs) and Environmental Management Programs (EMPs) shall be developed to ensure that objectives and targets are achieved for all	<ul style="list-style-type: none"> Agendas, Meeting Minutes, And Attendance Sheets SPD-05.01-A3 Environmental Plan SPD-05.02 A3 Energy Action Plan



Contractor Portal

Volvo NRV Contractor Portal - Windows Internet Explorer

http://phiconsulting.com/ems/client/volvo/nrv/contractor/contracts/intro

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Volvo NRV Contractor Portal

Contractors working for or on behalf of the NRV plant must do the following three things to maintain their status as APPROVED SUPPLIERS **within 10 days of request:**

- 1. TRAINING:** Suppliers working on site must have been trained to the "CONTRACTOR BRIEFING PACKAGE". Please download this file from the following link. It is your responsibility to use this briefing package to train your staff and subcontractors working on site. Trained staff and subcontractors must sign in using the attached "CONTRACTOR BRIEFING PACKAGE SIGN IN SHEETS". Completed sign in sheets must be uploaded into this supplier portal using the following "SUPPORTING DOCUMENTS" link.
[CONTRACTOR BRIEFING PACKAGE](#) ➔
[CONTRACTOR BRIEFING PACKAGE SIGN IN SHEET](#) ➔
[SUPPORTING DOCUMENTS](#) ➔
- 2. METHOD STATEMENT and INJURY LOGS:** The following "METHOD STATEMENT" must be completed and approved for all work conducted on site. METHOD STATEMENTS must be UPDATED EVERY THREE YEARS or each time the type of work you are doing on site changes. The following "INJURY LOGS" must be completed and updated ANNUALLY.
[VIEW ALL METHOD STATEMENTS](#) ➔
[VIEW AND UPDATE INJURY LOGS](#) ➔
- 3. SIGNED ACKNOWLEDGEMENT RECEIPT:** A signed copy of following "ACKNOWLEDGEMENT RECEIPT" must be uploaded using the following "SUPPORTING DOCUMENTS" link.
[ACKNOWLEDGEMENT RECEIPT](#) ➔
[SUPPORTING DOCUMENTS](#) ➔

Semi-annually each contractor shall complete the "Energy and Environmental - Continuous Improvement Monitoring Form." Upload using the "SUPPORTING DOCUMENTS" link.
[Energy and Environmental - Continuous Improvement Monitoring Form](#) ➔

See the attached directions for completing your FIRST CONTRACTOR APPROVAL SUBMITTAL (Method Statement, Acknowledgement Receipt, Injury Log and Support Documentation): [DOWNLOAD DIRECTIONS](#) ➔
See the attached directions for updating an EXISTING METHOD STATEMENT: [DOWNLOAD DIRECTIONS](#) ➔

For more information, contact the Environmental Manager at 540.674.7730 or 540.674-7382. (stephen.pierett@volvo.com or michele.lawton@volvo.com)

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Management of Change

Project Review / Management of Change - Windows Internet Explorer

http://www.phiconsulting.com/ems/client/volvo/corporate/prmoc/moc_menu.php

File Edit View Favorites Tools Help

Project Review / Management of Change

+ Add a New Equipment/Personnel/Traffic Change

View the Change History: « All Types »

Equipment Changes

EQUIPMENT TYPE	DEPARTMENT
<i>New Industrial Equipment</i>	
Lighting Plan ⇒	Chassis Line / Chassis Paint / Hold Area
Central Air House fans ⇒	Prep & Paint Booths
Passive Solar Wall ⇒	Facilities
Lighting ⇒	Customer Engineering / Sales
TEST ⇒	Prep, Paint Booths, Ovens (Paint Dept)

Personnel Changes

NAME	TITLE	SUPERVISOR	FACILITY	SECTION	DEPARTMENT	DATE OF CHANGE
<i>New Hire</i>						
Assembly Department - added second shift ⇒	Assembly Department Employees	Bill Moore	Volvo Truck, New River Valley	Assembly	Prep, Paint Booths, Ovens (Assembly)	2012-05-11
Lars Bloomberg ⇒	VP and General Manager	self	Volvo Truck, New River Valley	Facility Wide	Facility Wide	2011-09-01
Paint Department - Added second Shift ⇒	Paint Shop Employees - added second shift	Dean Durham	Volvo Truck, New River Valley	Paint Building	Prep, Paint Booths, Ovens (Paint Dept)	2010-09-01

Traffic Changes

DEPARTMENT	DESCRIPTION	TRAFFIC AFFECTED LOCATION	TRAFFIC EMPLOYEE NAME	DATE OF CHANGE
<i>Traffic Pattern Changes</i>				

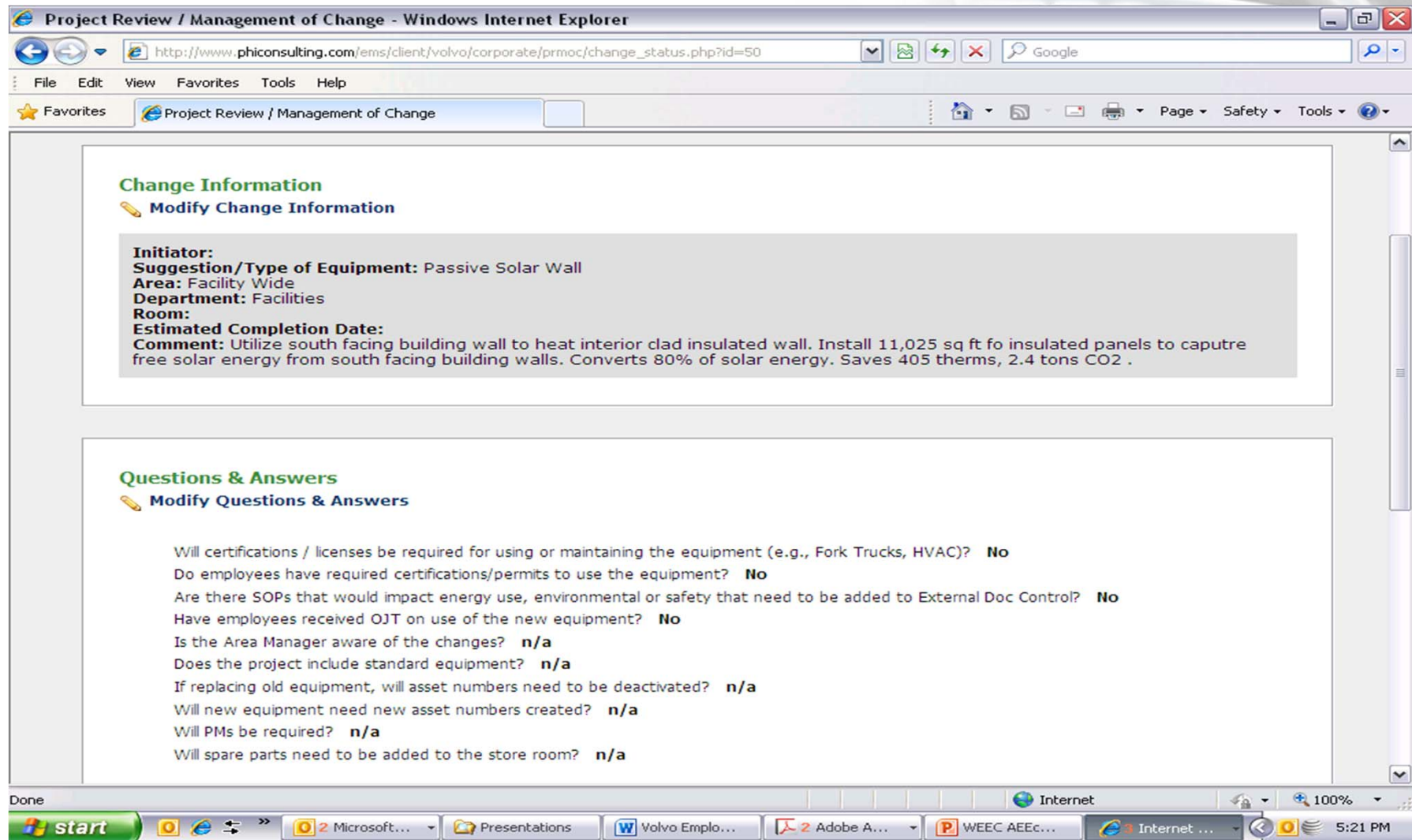
http://www.phiconsulting.com/ems/client/volvo/corporate/prmoc/change_status.php?id=33

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Management of Change (2)



Change Information
✎ **Modify Change Information**

Initiator:
Suggestion/Type of Equipment: Passive Solar Wall
Area: Facility Wide
Department: Facilities
Room:
Estimated Completion Date:
Comment: Utilize south facing building wall to heat interior clad insulated wall. Install 11,025 sq ft fo insulated panels to caputre free solar energy from south facing building walls. Converts 80% of solar energy. Saves 405 therms, 2.4 tons CO2 .

Questions & Answers
✎ **Modify Questions & Answers**

Will certifications / licenses be required for using or maintaining the equipment (e.g., Fork Trucks, HVAC)? **No**
Do employees have required certifications/permits to use the equipment? **No**
Are there SOPs that would impact energy use, environmental or safety that need to be added to External Doc Control? **No**
Have employees received OJT on use of the new equipment? **No**
Is the Area Manager aware of the changes? **n/a**
Does the project include standard equipment? **n/a**
If replacing old equipment, will asset numbers need to be deactivated? **n/a**
Will new equipment need new asset numbers created? **n/a**
Will PMs be required? **n/a**
Will spare parts need to be added to the store room? **n/a**

Summary for Integrated Systems

Disadvantage

- Creating more documents than those specifically required for ISO 50001/MSE 50021 or SEP

Advantages

- Added synergies between the Objectives & Targets and the EMS KPIs for continual improvement.
- ISO 50001 Employee involvement, for example in the area of Communications, increases the environmental awareness, involvement and empowerment
- Strengthens the environmental design and procurement process
- Strengthens the Contractor Management Portal
- 50001 Measurement Plan strengthens the Environmental Monitoring and Measuring
- Integrating systems streamlines the energy management system identification of related environmental regulation and other requirements.

ISO 50001/SEP Certification Audit

- Audit with dual path proceeding side-by-side
- Limited resources at facility to match the auditors could result in sequential audits
- Scheduling audit of elements should be well organized to minimize stress in what is a dynamic process



ISO 50001 vs. SEP

- ISO 50001 can be rigorous based on:
 - 4.4.3 Energy Review and
 - 4.6.1 Monitoring, measurement, and analysis
 - Depends on the methods used for ranking SEU's
- ISO 50001 has metrics and costs are involved
- SEP adds a prescriptive target for overall energy reductions with SEnPI to verify the measurement of progress



Highlights of SEP Certification

- Demonstrate the details of energy savings projects:
 - Develop a project template that records the baseline for a project and fully describes the project plan
 - Estimate and then confirm the energy savings
 - Ensure that the list of projects represents 95% of the SEP improvement claim, i.e. Platinum or 15% plantwide
- How do you demonstrate that your internal auditor is qualified to audit the SEnPI?
 - Internal audit procedure needs to clarify what the competency requirements are for an internal auditor auditing the SEP requirements identified in MSE 50021.

Was ISO50001/SEP Value Added for NRV?

- SEnPI Improvement over the SEP Achievement Period = **25.8%**
- Total Savings Attributable to SEP = \$1.4M USD
- ISO 50001/SEP Implementation Costs = \$377K USD
- Marginal Payback of Implementation Costs = 3.4 months
- Average Monthly Savings, Pre-SEP = \$66,000 / month
- Average Monthly Savings, Post-SEP = \$133,000 / month

From a DOE Case Study:

- ISO50001 did not have sufficient merit without SEP.
- SEP provides the benefit of a performance metric.
- SEP provides the ability to have proven performance metrics to quantify actual savings, giving both internal and external credibility to savings claims.



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