

Environmental Management System (EMS) Management Review and **Internal Audit (July 10-14, 2006)**

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NCCOS



EMS - Internal Audit Review (July 10-14, 2006)

■ Audit Objectives

- to help determine the degree to which:
 1. EMS continues to meet the NCCOS needs
 2. Necessary documented procedures in existence are practical & satisfy the specified requirements; are understood & being followed
 3. Areas of conformity & non-conformity, with respect to implementation of EMS, are identified and corrective actions implemented
 4. EMS objectives are met and that a basis is created for identifying opportunities and initiating actions to **improve the EMS system**

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■ Audit Scope

Assessing operations at HML and CCEHBR
+ against the requirements of the ISO
14001 standard & of NCCOS's EMS internal
audit criteria.

■ Audit Findings

- a. Minor Non-conformities - #7
- b. Opportunities for Improvement - #6

NOTE! The EMS includes **all NCCOS**, and as a result, the audit reflects an assessment of the **NCCOS – wide system**.

Finding #	EMS Element	Classification	Finding	Corrective Action Recommended	Corrective Action Status	Date Final EST.
1	EMS 002 Roles and Responsibilities	Minor	The EMS at NCCOS overall remains dependent on a few critical EMS team members at each facility.	More emphasis should be placed on the system itself so that even in the absence of key employees key environmental functions remain operational (includes supervisors).	200% increase to date	Ongoing FY07
2	EMS 003 Personnel Performance Standards	Minor	Lack of evidence of EMS or environmental performance standards being formally included in employee or EMS Team member performance plans.	NCCOS needs to include evidence of EMS or environmental performance standards in employee or EMS Team member performance plans.	Requires NCCOS management review/ concurrence	Ongoing FY07
3	EMS 006 Environmental Improvement Activities	Minor	No clear-cut method of tracking costs associated with environmental improvements.	In general, more effective and informative methods of environmental performance measurement should be established.	NCCOS conducted mandatory cost-tracking training for any form of procurement. (25% to date)	Ongoing FY06 and 07

Finding #	EMS Element	Classification	Finding	Corrective Action Recommended	Corrective Action Status	Date Completed
4	EMS 007 Environmental Awareness and Training	Minor	In some cases there is confusion among staff between "safety" & "environmental compliance", and "environmental management".	The "Training Matrix" should be enhanced to more effectively identify the environmental requirements of specific job functions and roles.	EMS Team will identify and enhance job function/ categories	NLT July 07
5	EMS 008 Environmental Operational Control	Minor	The employees aware of the Work Instructions had not yet integrated them into day-to-day activities.	Further education of employees and emphasis on improving work instructions is required.	EMS Team will enhance SOP training program	NLT July 07
6	EMS 009 Internal Communications	Minor	Employees perception was "lack of mangt. structure" internal to the <u>HML</u> & CCEHBR understanding the role in the EMS within NCCOS.	Enhance upper management active/ visible role in endorsing EMS.	EMS Team will identify and enhance training of the management and employees via road map	NLT July 07
7	EMS 011 Documents and Records Control of EMS	Minor	In some cases, it was not clear which environmental documents were current and which were obsolete.	It is critical that an NCCOS wide Document Control System be implemented to meet the document demands of NCCOS. (cost not yet known)	EMS Team will identify and recommend to NCCOS management a suitable document control software	NLT July 07

#	Opportunity for Improvement	EMS Element
1	<p>a. Incorporation of the NCCOS EMS into the employee orientation process</p> <p>b. The management structure, from the NCCOS HQ level to the local facility level, should be described and incorporated into the employee orientation process.</p> <p>* Would show a visible commitment to proactive environmental management at HML and CCEHBR as well as the other NCCOS facilities.</p>	<p>EMS 002 Roles and Responsibilities</p>
2	<p>A personnel performance standard statement (one for employees; one for employees involved with the EMS Teams and one for supervisors) should be developed and approved by NCCOS HQ and included in all employee performance plans</p> <p>* Non-federal employees should have a similar statement introduced as part of an NCCOS employee environmental awareness acknowledgement.</p>	<p>EMS 003 Personnel Performance Standards</p>
3	<p>Reviews of existing processes and new processes continue to identify opportunities to reduce environmental exposure and hazardous chemicals.</p> <p>A baseline needs to be established to determine associated increases or reductions + continued monitoring of the use of NOAA Facility Codes by NCCOS HQ Budget staff is recommended.</p>	<p>EMS 006 Environmental Improvement Activities</p>

#	Opportunity for Improvement	EMS Element
4	<p>Online training pertaining to specific jobs and tasks should be reviewed to determine if it is appropriate to incorporate it into the NCCOS EMS and/or Safety training program.</p> <p>Evaluation of training effectiveness must be included in EMS.</p>	<p>EMS 007 Environmental Awareness and Training</p>
5	<p>Operational controls need to be enhanced and standardized across NCCOS so that they are inclusive.</p> <p>* Centrally locating these operational controls will enable employees to locate them easily and simplify "document control".</p>	<p>EMS 008 Environmental Operational Control</p>
6	<p>Employee's indicated → lack of awareness of management's "buy in" to EMS.</p> <p>Employee's → suggested that management help describe how EMS at the facility level fits into the larger NCCOS EMS.</p> <p>* Periodic communication directly from management such as an internal newsletter describing EMS developments and achievements could improve this employee perception.</p> <p>* Regular visits by management to discuss safety and EMS matters would also demonstrate a commitment</p> <p>* Management should follow-up on employees suggestions</p> <p>* Employee rewards program suggested</p>	<p>EMS 009 Internal Communications</p>

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Summary

- Increase in the Internal Communication and information sharing between NCCOS management and staff and across NOAA (EMS status reports, restatement of mission objectives, the possible establishment of an EMS employee rewards program, and EMS inclusion as part of an annual performance review).
- Employee training should become less generalized.
- Advanced training in specific job functions and related environmental impacts, annual retraining, training for specific environmental related issues can help employees better understand NCCOS EMS policies, goals, and objectives.
- The NCCOS facility teams need to become more engaged with greater participation by both management and employees.
- Development of an NCCOS wide Document Control System would enhance the EMS and alleviate the added burden that is now being borne by staff in trying to maintain up-to-date documentation.
- Continue to recognize all employees for their hard work and publicize the NCCOS EMS success stories.

NCCOS EMS – Internal Audit Criteria (keys)

■ Highlights

1. **80%** of employees interviewed knew the content of the environmental policy
2. Out of 10 employees interviewed the 3 most commonly identified significant environmental aspects were: **a. Waste management (includes recycling) b. Chemical management c. Energy management**
3. Out of 3 senior employees interviewed the 3 most commonly identified significant environmental aspects were: **a. Energy (lighting, HVAC) b. Chemicals/ Bio-safety c. Chemical Waste Disposal/ Overbuying**
4. **90%** of employees interviewed whose job function has legal and/ or other environmental requirements could articulate the requirements and **100%** knew how to locate the requirement in the EMS
5. The EMS objectives (3) address **a. significant aspects b. legal and other requirements c. cost d. pollution prevention**
6. Targets have been achieved **80%** in the last Fiscal Year
7. Total resources provided for environmental management/ compliance: **a. currently no break out of funding b. no individual staff member is dedicated solely to EMS/ environmental management**
8. **100%** of individuals with specific environmental responsibilities interviewed could describe their responsibilities.
9. **100%** of senior managers (ask at least 2), EMS team members (ask at least 5) and scientists (ask at least 10) knew how to locate environmental documents relevant to them.
10. **100%** of activities with the potential for significant environmental impacts have operational controls
11. The training requirements of job functions related to operations with significant environmental aspects **have not been identified and documented; all staff have received** environmental awareness training
12. **100%** of senior managers (ask at least 2), EMS team members (ask at least 5) and scientists (ask at least 10) **knew how to locate environmental documents relevant to them**



EMS – Basic Environmental Metrics values for improvement opportunities

Category	Definition	Metric	Unit of Measure
➤ Haz Waste	Hazardous & Toxic regulated	Manifested- HW	gal/ lbs/ yr, %r
➤ Solid Waste	Other than RCRA wastes	Off-site disposal	gal/ lbs/ yr, %r
➤ Air	Caa; HAPs, VOCs,NO,CO2,SO2	Emissions	lbs/ yr/ %r
➤ Water	from outside sources for ops/use	Water used	gal/ %r
➤ H2O Pollution	H2O discharges/ NPDES waters	lbs / year	lbs/ %r
➤ Hazardous Mtls	Processes that are haz/ toxic	HM/reduced	lbs/ yr/ %r
➤ Energy	Multiple sources/ use of power	Energy used	BTU/ Kwh/ %r
➤ Other measures	Indirect EMS alternats/improve	Quantify/ est.	specific %r



NCCOS EMS – Internal Audit Criteria (Selection)

■ Checking

1. Each objective and target have a performance metric; each operational control have a performance indicator; the instruments used to measure performance are calibrated
2. ~12 to 20 environmental compliance issues have been identified from internal inspections or reviews
3. 11 non-conformities have been identified since the last internal audit and for 70% of them preventative actions were developed

■ Management Review- "KEYS" a & b

1. At the last management review management requested the EMS Team to **take 2 actions** (a) improvement of document control; (b) identify EMS benefits



Energy Scorecard (2006)

> Scorecard Elements

- Reduction in energy intensity in standard buildings (labs) compared with prior 12 months: 1 percent (NCCOS 3%)
- Reduction in energy intensity **all** NCCOS facilities compared with 2003: 2 percent/year reqd. (pending)
- Use of renewable energy as a percent of facility electricity use: 2.5 percent by 2003 (NCCOS 3%) (pending)
- Metering plan to meter energy use in 100 percent of appropriate facilities by 2012: 75 percent by 2006 (75%)
- Percent of new building designs that are 30 percent more energy efficient than ASHRAE code (18%)

Status: Yellow

Progress: Pending



NCCOS



Environment Scorecard (2006)

➤ Environmental Management System (EMS)

- At end of 2005, 6 of 6 sites (incl. HQ) had EMS in place (100%)
- 6 self-declared (100%)
- In addition 2 sites internally audited (July 06) for functionality following implementation (> 80% up to 100%)

➤ Green Procurement

Requirements in place; update needed for alternative fuels

➤ Facility Sustainability

Sustainable Design Policy – in progress; various locations

➤ Electronic Stewardship

New requirement; actions well underway

➤ Implemented Compliance Management Plan

Status: **Yellow**

Progress: **Green**



NCCOS



Transportation Scorecard

<u>Fiscal Year</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
• AFV acquisitions	0%*	2%*	8%*
• Petroleum reduction	9%	11%	16%
• Alternative fuel consumption	0%	8%	10%
• Average MPG increase	1.0	2.6	3.1

* Includes credits for dedicated CNG vehicles and use of biodiesel (B20)

Status: Yellow

Progress: Green



Questions ?

- EMS works through YOU! Its an employee-driven system with regular management reviews.
- If you have questions/suggestions regarding EMS or anything about this presentation contact the NOS EMS Representative, Jean Durosko at 301-713-3050; or the NCCOS EMS Representative, Rick Meitzler at 843-762-8842.
- <https://www.ems.noaa.gov/Sites/NCCOS/index.htm>

