

# **Environmental Auditing in Electric Utilities: Evolving Issues and Emerging Trends**

**John K. Underwood, PhD, CEA, EMS(LA)  
Nova Scotia Power, Inc.**

**2002 Annual Meeting of the Canadian  
Environmental Auditing Association  
September 26-28, 2002**



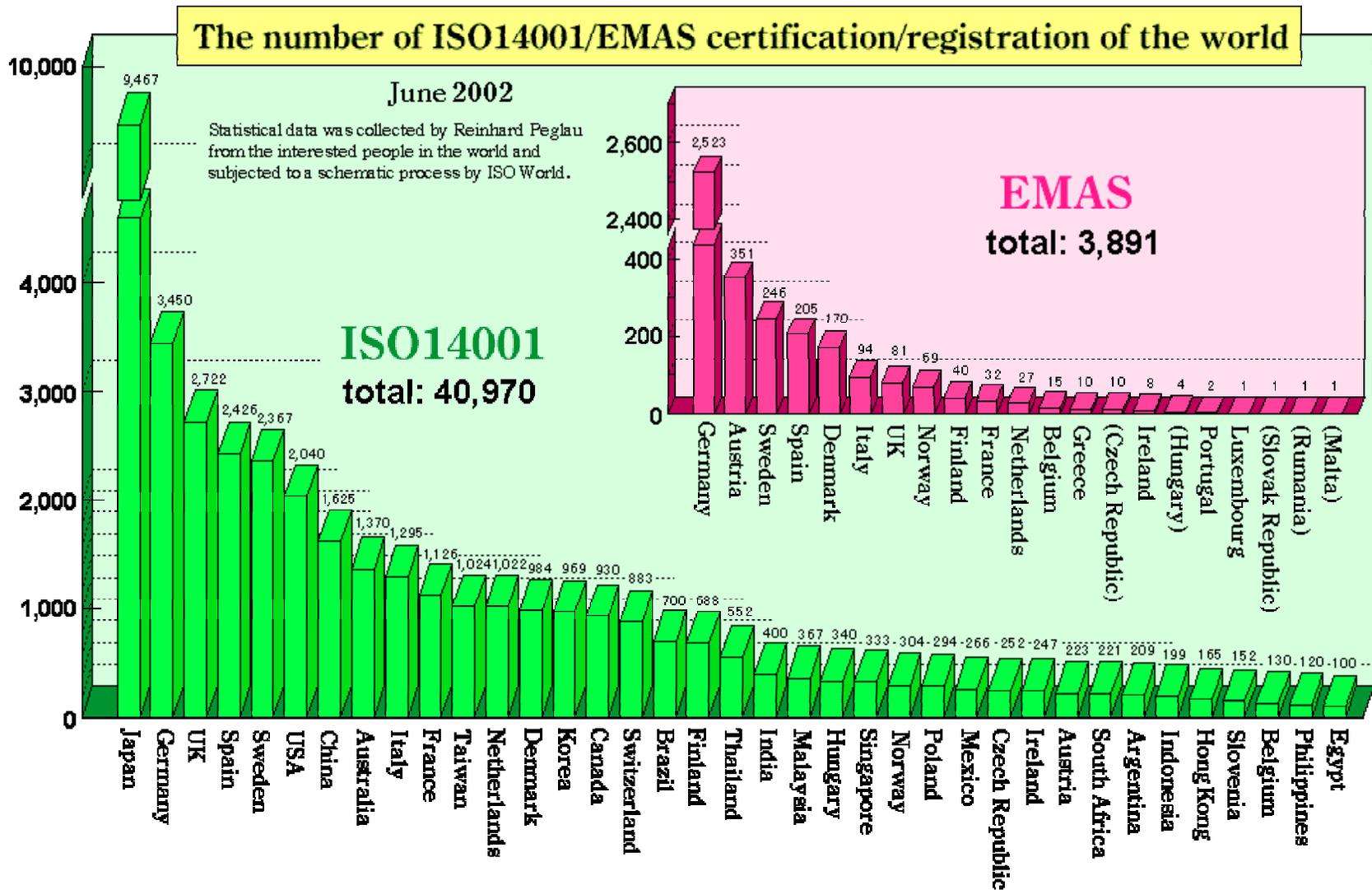
## 2001 North Battleford, Sk, Inquiry on Water Quality After ~7000 People Infected From Drinking Water

- Absence of quality control parameters, quality assurance policies and guidelines.
- Inadequate record keeping system.
- The record keeping system did not easily lend itself to third party review.
- No policy in place for internal or external review of record keeping.
- Poor understanding of treatment effectiveness.
- Poor understanding of the habitat requirements of the water-borne parasite.
- Constrained financial resources.
- Inadequate communication to senior management of water treatment requirements in the context of constraints presented by aging equipment.

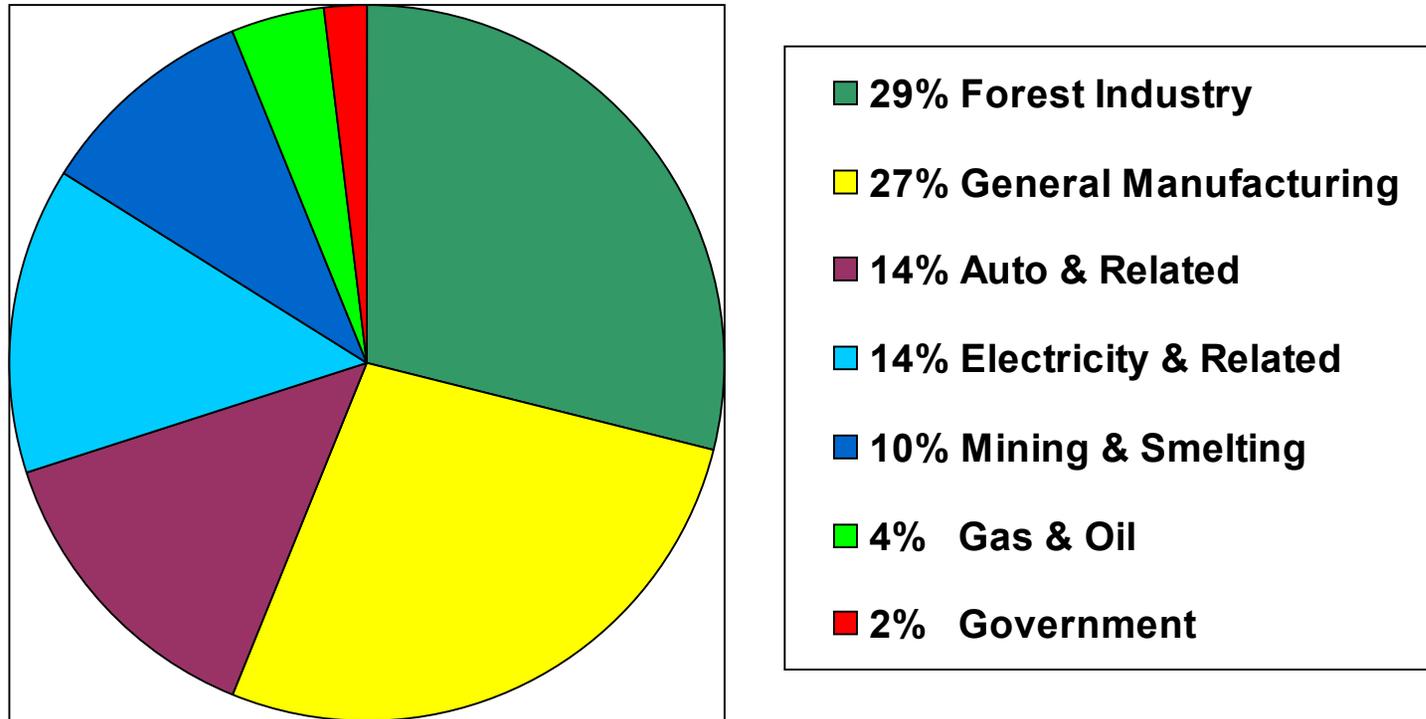
# Findings of 2001 North Battleford Inquiry on Water Quality Demonstrate An Obvious Role for EMS:

| North Battleford Water Commission Inquiry Findings   | ISO 14001 Link   |
|--|--|
| Absence of quality control parameters, quality assurance policies and guidelines.  | <i>(4.4.6 Operational Control)</i>   |
| Inadequate record keeping system.  | <i>(4.4.5 Document Control)</i>  |
| The record keeping system did not easily lend itself to third party review.  | <i>(4.5.3 Records)</i>   |
| No policy in place for internal or external review of record keeping.  | <i>(4.5.4 EMS Audit)</i>   |
| Poor understanding of treatment effectiveness.   | <i>(4.4.2 Training, more likely 4.4.6 Operational Control – lack of documented procedures)</i> |
| Poor understanding of the habitat requirements of the water-borne parasite.  | <i>(4.4.2 Training, more likely 4.4.6 Operational Control – lack of documented procedures)</i> |
| Constrained financial resources.   | <i>(4.4.1 Structure and Responsibility – resources)</i>  |
| Inadequate communication to senior management of treatment requirements in view of constraints presented by aging equipment. | <i>(4.4.3 Communication)</i>   |

(Source for figure: <http://www.ecology.or.jp/isoworld/english/analy14k.htm>)



# Proportion of ISO 14001 Certifications in Canada



(from [www.ISO14000.com/Registered](http://www.ISO14000.com/Registered) - 792 certifications in chart as of August 2002)

# EMS vs Compliance Auditing

- The subtleties of auditing an environmental management system require knowledge and skills that are distinctly different from compliance auditing.
- Mastery over the ISO 14001 standard is mandatory.
- Flexibility in application of the standard means no two management systems need look alike.

# Developing the Most Appropriate EMS

- Does an organization jointly certify all its subsidiaries, or should it apply for multiple certifications?
  - Either is acceptable.
- If multiple certifications, does “Top Management” refer to the subsidiary or to Corporate Head Office?
  - Either is acceptable.
- Should EMS audits be conducted at the same time as Compliance audits, or done separately?
  - Either is acceptable.
- Is certification the required end goal or can the same effects be attained through self-declaration?
  - Either is acceptable.
- Is EMS documentation bulky or brief?
  - Either is acceptable.

# Combining Compliance and EMS Audits

- Does one supplement an audit team with EMS specialists?
- Does one spread the EMS protocols throughout the compliance team?
- What is the format and content of the audit report?
- What is the return-cycle for audits?

# Emerging Issues for Auditors

- National programs have enhanced attention of audit programs on protocols that link both compliance and EMS elements.
  
- Combined audits must cover:
  - Management systems for training;
  - Records management;
  - Standardization and documentation of procedures;
  - Equipment maintenance; and
  - Quality assurance.
  
- Auditors with EMS specialization may not have adequate operational experience to provide thorough coverage in this type of combined audit.

# Conclusions

- We can all do a better job as ambassadors for ISO 14001.
- There are hundreds, if not thousands, of public amenities and services across the country which would be well served by implementation of carefully focused environmental management systems.
- The *Environmental Commitment and Responsibility (ECR)* Program, administered by the Canadian Electricity Association, continues to provide employment opportunities for certified environmental auditors.
- Misunderstanding of ISO 14001 elements occurs, even within organizations that have applied the tool.

# Conclusions (cont'd)

- Auditing for conformance to the law is different than auditing for conformance to ISO 14001.
- Flexibility and open-mindedness in application of the ISO standard are important assets for successful EMS auditing.
- Auditors with sole specialization in environmental management systems may not have adequate operational experience to provide thorough coverage of combined EMS and compliance audits.
- Enhanced requirements for experience with industry represents a challenge for independent candidates who seek EMS auditor certification. Acquisition of this experience has been a long-standing concern. It would now seem that this quest has had an extra layer of difficulty added to it.