Best Practices for Trouble-Free Verification of Greenhouse Gas Emission Reports

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Planning for GHG Reporting

- Paradoxes of planning
  - It takes so much time!
  - But I already know where the information is!
- Planning should improve reliability, ensure organizational buy-in, reduce crisis management, and make verification easier
- Planning reflects the “Go Slow to Go Fast” principle

Controls: What Are They and Why Do I Need Them?

- "Management Controls: The rules, procedures, techniques and devices employed by managers to ensure that what should occur in their daily operations does occur on a continuing basis"
- Controls are what makes it possible for managers to leave work each day (or for the weekend), enjoy their personal time and sleep well at night

Controls Related to GHG Inventories

- Procedures for:
  - Identifying organizational boundaries and adjusting them
  - Identifying GHG sources, sinks and reservoirs
  - Identifying legal and other requirements
  - Monitoring and measurement, including calibration and maintenance

Controls Related to GHG Inventories - 2

- Procedures for:
  - Quantifying GHG emissions and removals
  - Calculating GHG emissions and removals
  - Data entry and error-checking
  - Approving changes to information systems
  - Training and supervision
  - Operational control for subcontracted activities

Develop a Documented Inventory Management Plan

- Cite management policies and direction that authorize the inventory development
- Describe responsibilities and accountabilities
- Include or refer to inventory procedures
- Cross-reference other management controls or systems, such as procedures for:
  - Internal audit
  - Corrective action

Train Affected Personnel

- An approved inventory management plan should make training a snap
- Who wouldn't prefer to know about their GHG roles and responsibilities *before* the verifier shows up to pepper them with questions?

Identify and Preserve Essential Records

- Records can reside in many departments
- Retention times may have been established without consideration of the needs of the GHG inventory program
- Changing records management policies may involve legal and financial managers

Quality Assurance/ Quality Control

- Integrate the GHG Inventory program into the organization's environmental/quality/financial management systems
- Define key performance indicators
- Establish objectives for improvement
- Review results at management reviews

Tips for Reporting Indirect Emissions

- Read the General Reporting Protocol (and others as applicable), in order to:
  - Identify specific requirements that must be met
  - Create the procedures that will ensure compliance

Types of Indirect Emissions

- Required reporting (GRP, chapters 6 and 9):
  - "Energy Indirects," e.g. purchased electricity, steam, heating or cooling
- Optional reporting (GRP, chapter 12):
  - Off-site waste disposal, including transport
  - Production of purchased raw materials, including transport
  - Employee commuting
  - Outsourced activities and contracting

POP QUIZ!

Fill in the blanks. Indirect emissions include:

E_____ consumption

S_____, when imported

District H_____ or C_____

Special Rule for Electricity Purchases

- Why is the 31st of December unlike all the other ending dates of the other months when it comes to calculating Indirect Emissions from Purchased Electricity?

Special Rule

- Why is the 31st of December unlike all the other ending dates of the other months when it comes to calculating Indirect Emissions from Purchased Electricity?
- Because the principle of “Cut-off” requires reporters to adjust year end utility bills to pro-rate kwh consumed so that only December energy is included in the month’s accounting
- See GRP 3.0, Equation III.6a, pg. 31

Verifier-Friendly Reporting

- Collect invoice data for the reporting year
- Record data in a database or spreadsheet
- Adjust for year beginning and end cut-off
- Check the data for errors
- Analyze the data for management purposes
- Enter activity data in CARROT
- Retain records for verification

Case Study # 1

- A manufacturing company's EH&S department found the needed expertise for accounting for purchased electricity in the Facilities Management (FM) department
- FM monitored utility company bills closely for accuracy and energy consumption
- EH&S assigned FM responsibility for GHG data collection to avoid duplication of effort

Case Study # 2

- A raw materials processor collected natural gas purchase data from utility bills
- "Pre-Calc" function used instead of CARROT activity based data entry
- Forgot to convert natural gas therms to MMBtus (100,000 Therms = 10,000 MMBtus)
- Calculated CO_2 as Therms x MMBtu EF
- Overstated emissions by factor of 10

Case Study # 3

- An oil & gas production company reported emissions from its main facilities, but overlooked emissions from some smaller facilities
- Counting them as *de minimis*, the inventory manager forgot to check his revised *de minimis* emissions accounting line item
- Due to the additions, *de minimis* emissions now = 5.5%, 0.5% more than the allowable limit

Closing Thoughts

- GHG inventory management should link to the organization's strategic business objectives
- Collecting data, reporting information, and reviewing results should involve multiple levels and functions within the organization
- Controls should be designed and implemented to provide management reasonable assurance that data and information are accurate and reliable

Key GHG Contacts

Connie Nguyen
Regional Sales Manager

NSF-ISR
S. California Sales Office
9191 Towne Centre Dr.,
Suite 510
San Diego, CA 92122
(734) 649-3186
cnguyen@nsf.org

John C. Shideler, PhD
GHG Program Manager

NSF-ISR
789 Dixboro Rd.
Ann Arbor, MI 48105
(866) 913-5797
shideler@nsf-isr.org