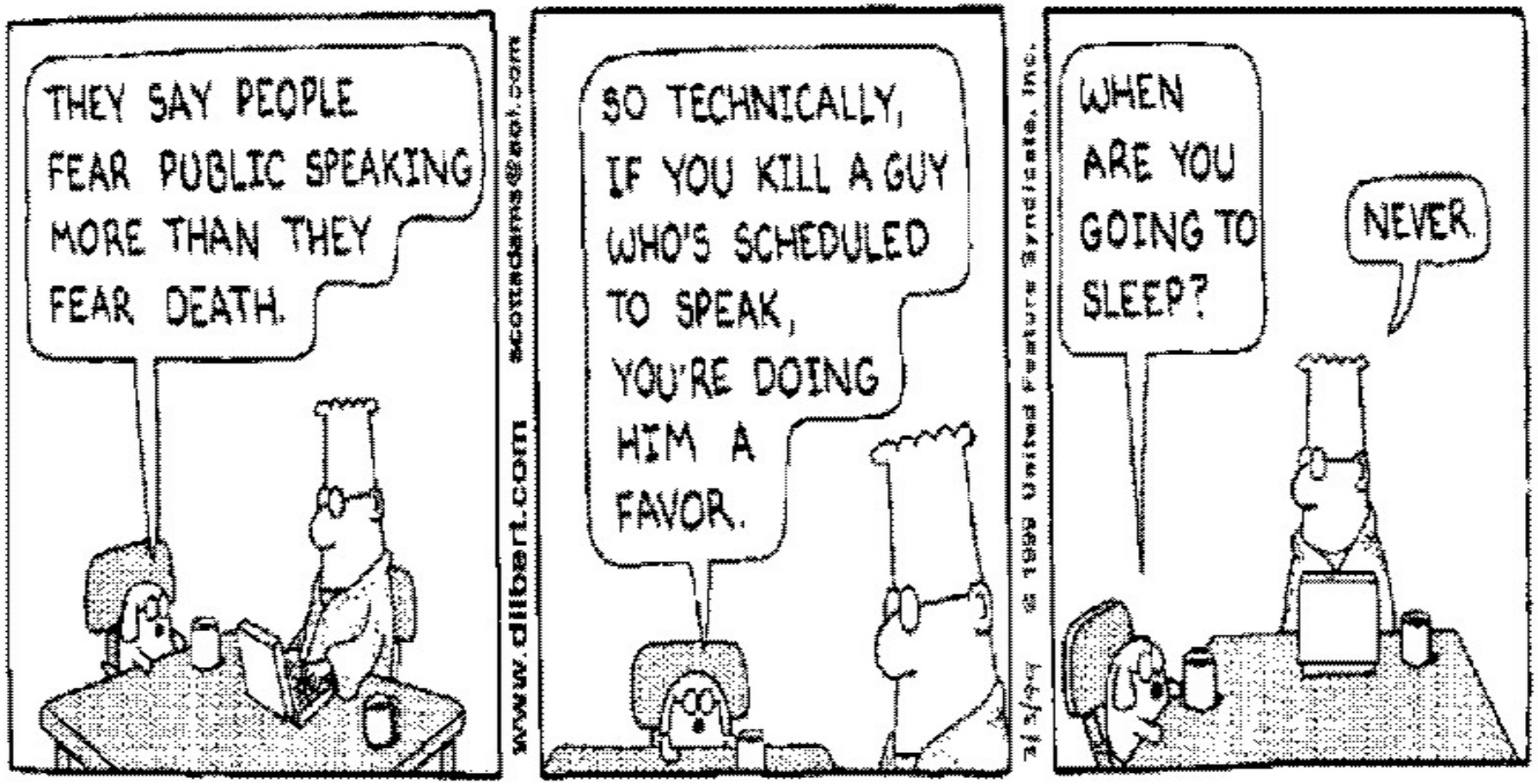
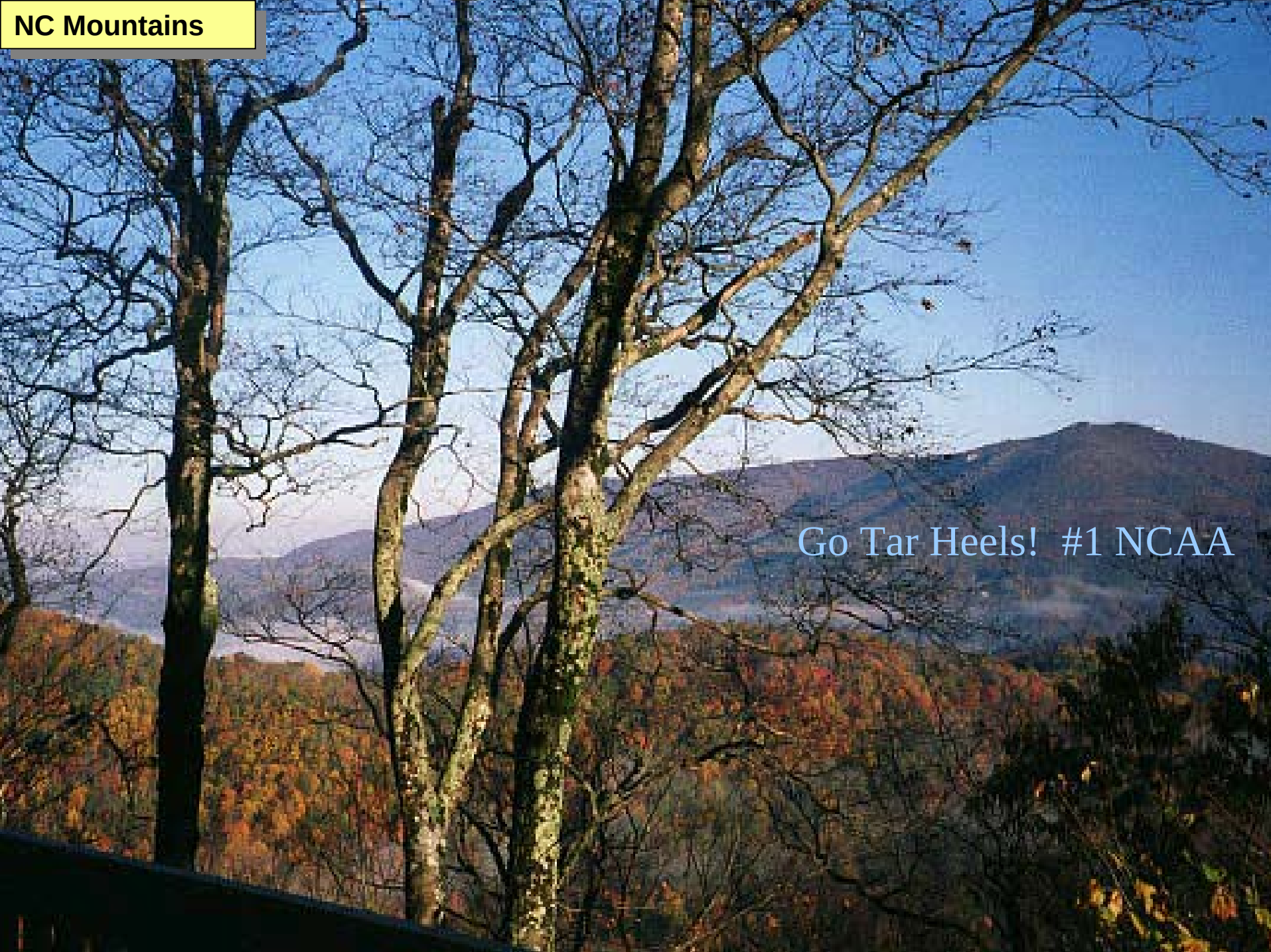
Dilbert's Perspective




NC Mountains
Go Tar Heels! #1 NCAA

North Carolina's Integrated Approach to Satisfying Data Needs for Components of its Air Quality Management Program

(short title)

James (Jim) Southerland QEP

NC DENR

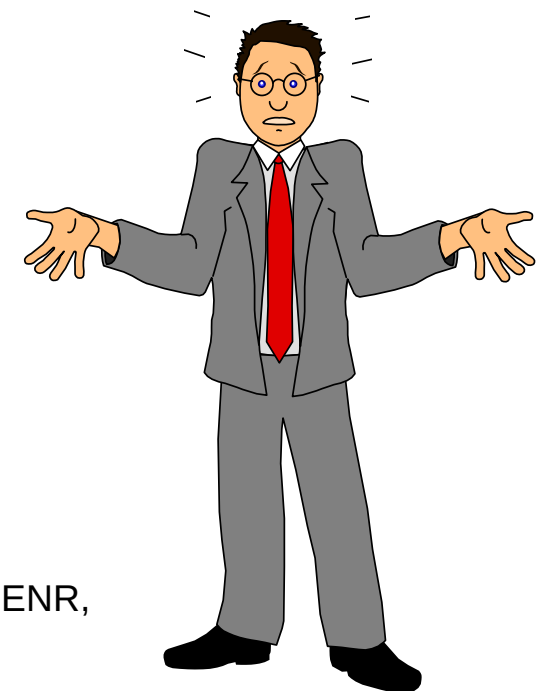
Division of Air Quality

Raleigh, NC

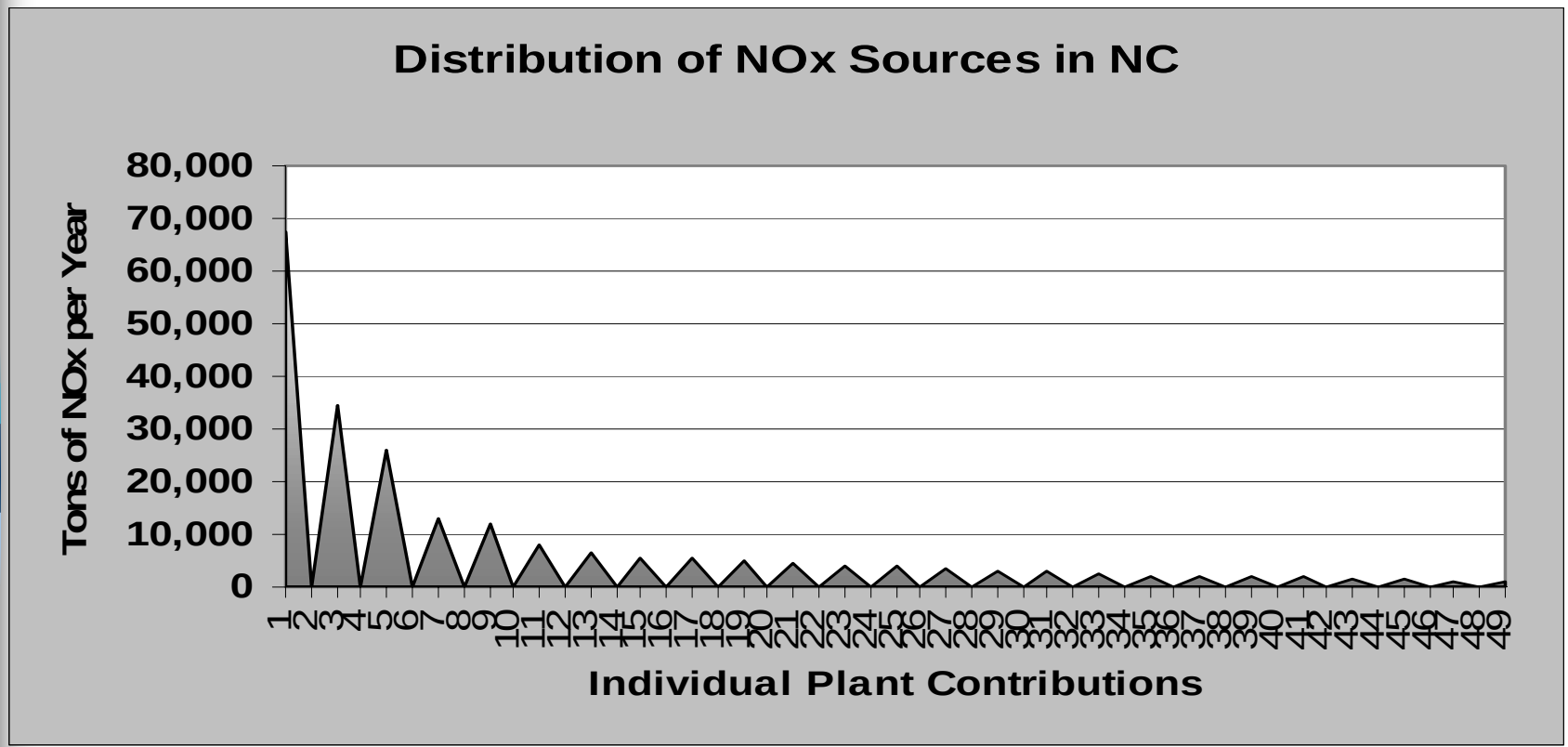

Autumn In NC

NC Reporting (Permit) Categories

- NC's Point Source Inventory is very "permit oriented"
- Emissions are reported to state by the facilities
  - 97 Counties handled by State; 3 Counties by local agencies
- Title V Permits
- Synthetic Minor
- Small



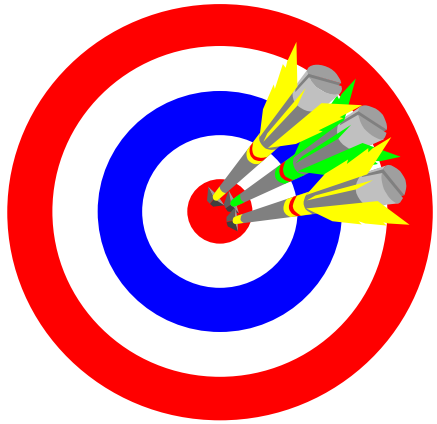
Example of Distribution of Emissions in NC Inventory



NC Reporting Categories

- Title V Permits
  - Required by CAA
  - Cover major sources (>100, 25, 10 tons potential)
  - Basis for Fees (Annually)
  - Requirement to invoice facilities
  - Help fund the program
  - ~ 375 facilities in North Carolina – was 600

NC Reporting Categories

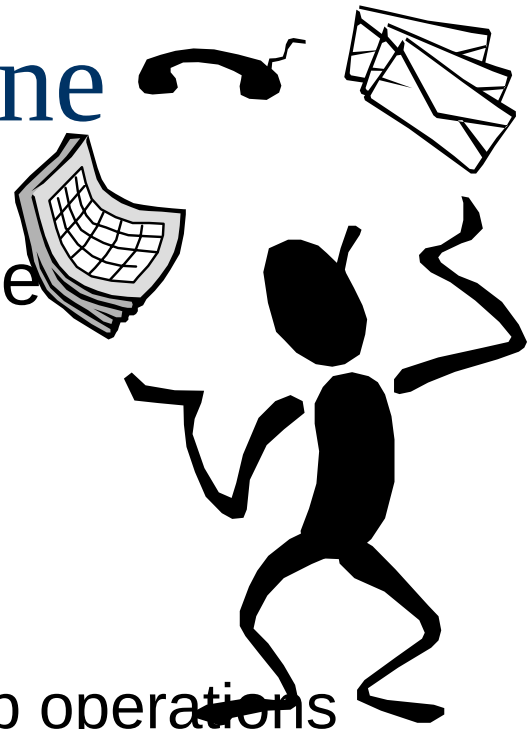


- Non-TV
  - Synthetic Minor –
    - "could have been" Title V –
    - ~ <600 Facilities
  - Small
    - From ~3 to 5 tons upward to Syn Minor & TV
    - ~2000+ Facilities
- Traditionally in NC, these have been completed each third year (e.g. 1996, 1999)
  - Now NC does each 5th year (rolling -20%/year)
  - Required at time of & condition of permit renewal
  - Below CERR Thresholds

Smalls

- Smalls may only have a boiler or a few emitting processes OR may be large, but with few emissions
- *de minimus* for requiring a permit and becoming a point source reporting is ~3 to 5 tons per year
- Some Smalls may be large enough to be Title V if they increase their operations and schedules, but take permit limitations to avoid
- They represent a very mixed group as relates to ability and sophistication of staff for emission reporting
- For many, reporting to EPA is normally not required

Other Categories- Define



- **Non-Permitted** sources include
  - Dry cleaners
  - Gasoline Service Stations
  - Auto body repair
  - Furniture rehabilitation shops
  - Very small boilers and other shop operations
  - Reporting to USEPA is not **required** individually
- **Area and Mobile** sources are generally compiled only
  - When models will be run for regional ozone
  - Or PM problem analyses

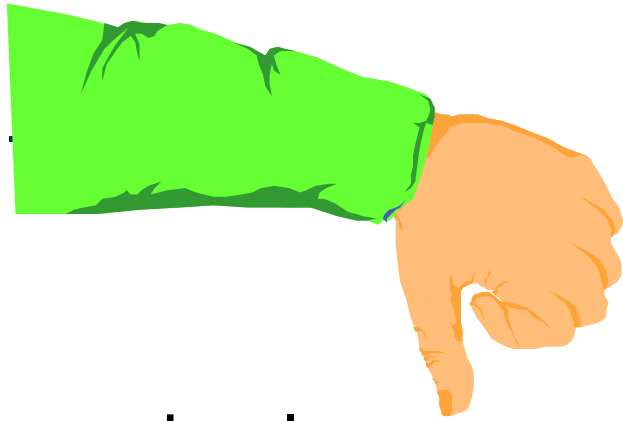
EPA's Combined Emissions Reporting Rule (CERR-2002) for NC

- Criteria Pollutant Reporting Minimums
  - NOX - 2500 tons/year (83%) or 100 tpy (~97%)
  - CO - 2500 tons/year (58%) or 1000 tpy (~75%)
  - SOx – 2500 tons/year (94%) or 100 tpy (~99%)
  - VOC – 250 tons/year (65%) or 100 tpy (~88%)
  - PM10 – 250 tons/year (78%) or 100 tpy (~85%)
  - PM2.5 - 250 tons/year (83%) or 100 tpy (~91%)

NC HAP Data Collection and Reporting to EPA

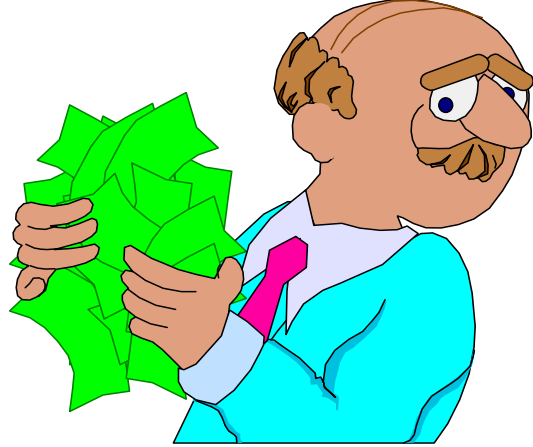
- Hazardous/Toxic Air Pollutants
  - ❖ NC tracks ~240 Pollutants: (187 HAPs) + State TAPs
  - ❖ We currently are/plan reporting area/mobile sources 3rd year + SIPs
  - ❖ Some Risk Assessment done for TAPs
  - ❖ Facilities Report & DAQ regional staff enter or review resulting data
  - ❖ Reported to EPA annually for convenience and reviewed/verified with 3rd year EPA cycle

QA and Validation - Point Sources



- NC has inspections, semi-randomly on a schedule of approximately once per year
- Calculations documentation is required to be submitted by facility
- The calculations are reviewed upon receipt and validated when making inspections
- New web entry data system (ED/AERO) has many checks to prevent unreasonable data entry and identifies many outliers- makes comparisons with past data

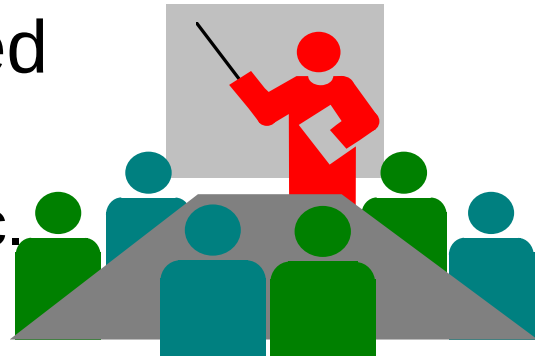
Incentives to Facilities



- Reporting Required by State statutes
- Reporting further defined in State/DAQ Rules
- Penalties of up to $10,000/day for not reporting
- For TV, fraudulent reporting can result in “Cell Time” and/or significant fines

Incentives & Support to Facilities

- NC DAQ strives to be “customer friendly” and assist facilities whenever needed
  - Personal Attention
  - Training Sessions/Workshops, etc.
  - Tools + Links to EPA Tools



- Many facilities hire consultants and DAQ steers them in the right direction when possible
- NC DAQ provides AP-42 based assists for emission calculations

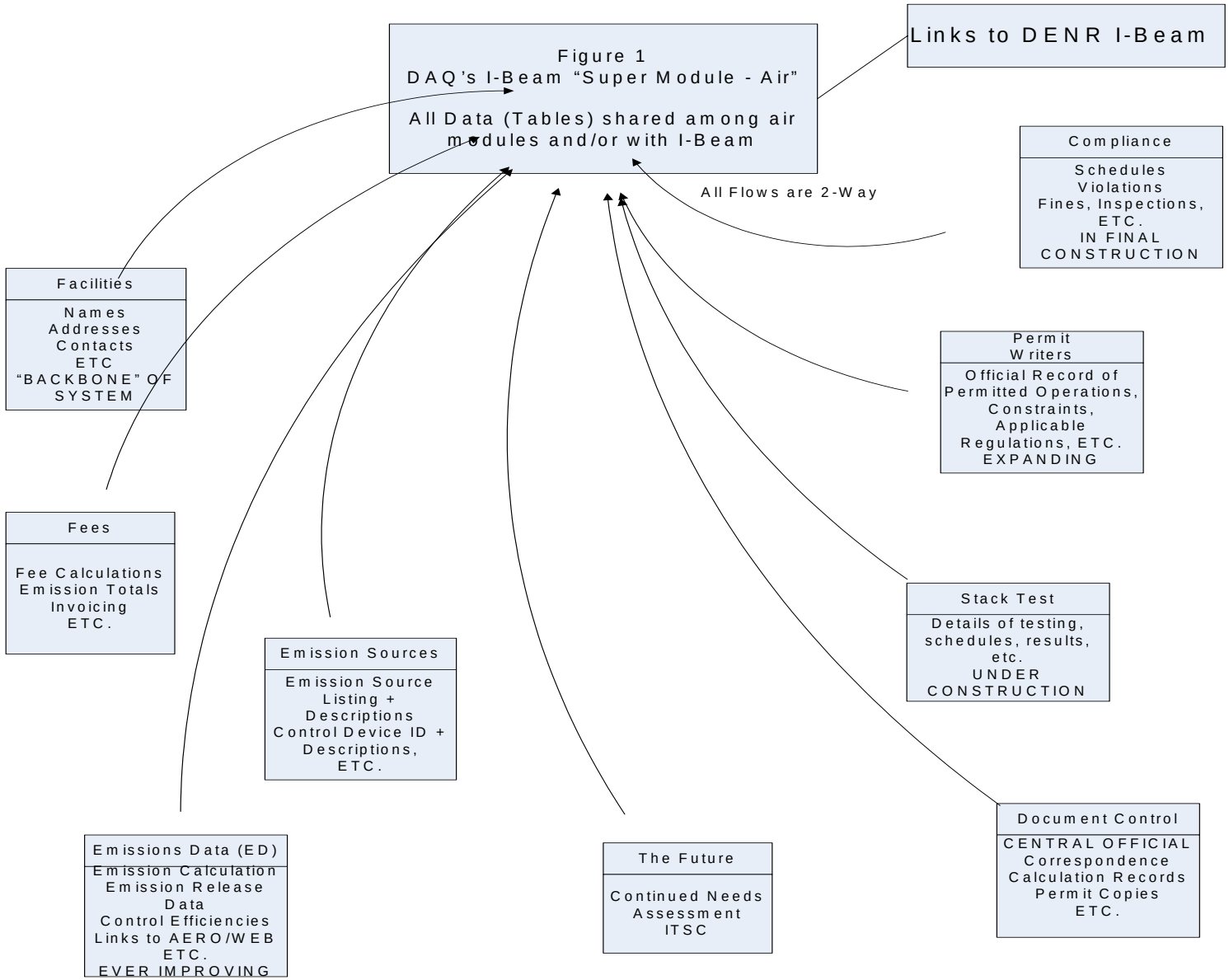


Figure 1
DAQ's I-Beam "Super Module - Air"
All Data (Tables) shared among air modules and/or with I-Beam
Links to DENR I-Beam
All Flows are 2-Way
Compliance
Schedules
Violations
Fines, Inspections, ETC.
IN FINAL CONSTRUCTION
Facilities
Names
Addresses
Contacts
ETC
"BACKBONE" OF SYSTEM
Permit Writers
Official Record of Permitted Operations, Constraints, Applicable Regulations, ETC.
EXPANDING
Fees
Fee Calculations
Emission Totals
Invoicing
ETC.
Stack Test
Details of testing, schedules, results, etc.
UNDER CONSTRUCTION
Emission Sources
Emission Source Listing + Descriptions
Control Device ID + Descriptions,
ETC.
Document Control
CENTRAL OFFICIAL
Correspondence
Calculation Records
Permit Copies
ETC.
Emissions Data (ED)
Emission Calculation
Emission Release Data
Control Efficiencies
Links to AERO/WEB
ETC.
EVER IMPROVING
The Future
Continued Needs Assessment
ITSC

I-Beam/ED/AERO - definitions

- I-Beam is Departmental, multimedia system
  - Partly in use (e.g. air), partly a gleam
  - Links with EPA's "Super-all media system"
- ED is NC DAQ's internally accessed part of emission inventory system
- AERO is web interface and (temporary) data storage tool for facility direct entry
- Both were developed in-house (3-4 years)

I-Beam & ED/AERO

DAQ's I-Beam "Super Module - Air"
Many Modules
All Data (Tables) shared among air modules and/or with I-Beam
Each Module is "integrated but stand-alone"

Emission Sources Module

Emission Source Listing + Descriptions
Control Device ID + Descriptions, ETC.

Facilities

- Names
- Addresses
- Contacts
- ETC
- “BACKBONE” OF SYSTEM

Permit Writer Module
(new/renewal, TV + non-TV)

Official Record of Permitted Operations, Constraints, Applicable Regulations, ETC.
EXPANDING

Emissions Data Module

Emission Calculation
Emission Release Data
Control Efficiencies
Links to AERO/WEB
ETC.
EVER IMPROVING

Compliance Module

Schedules
Violations
Fines, Inspections,
ETC.
IN FINAL CONSTRUCTION

Fees Module

Fee Calculations
Emission Totals
Invoicing
ETC.

Documents Management Module

CENTRAL - OFFICIAL

Correspondence

Calculation Records

Permit Copies

ETC.

Stack Test Module

Details of testing, schedules, results, etc.

UNDER CONSTRUCTION

Coming Soon

The Future

Continued Needs Assessment
ITSC

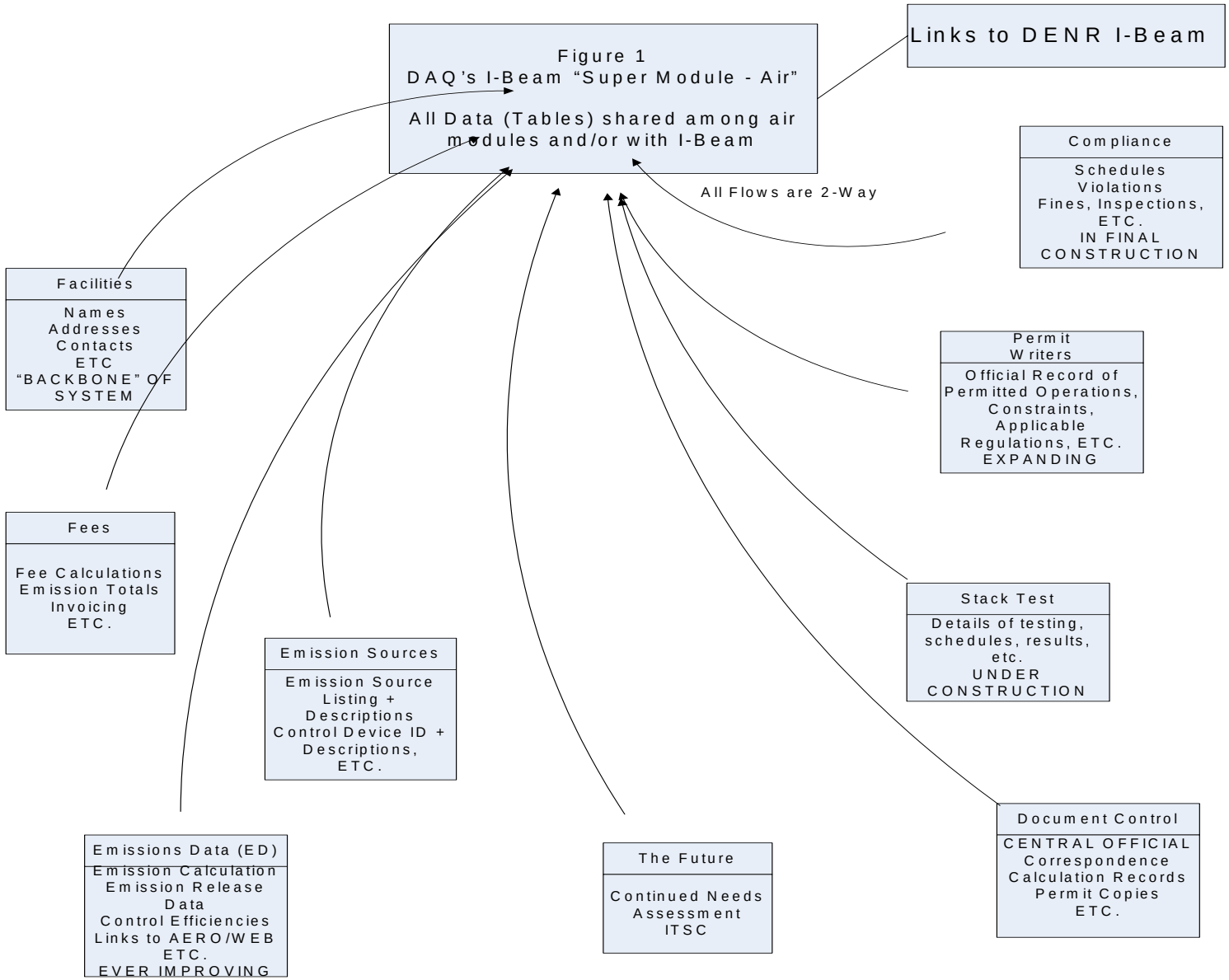


Figure 1
DAQ's I-Beam "Super Module - Air"
All Data (Tables) shared among air modules and/or with I-Beam
Links to DENR I-Beam
All Flows are 2-Way
Compliance
Schedules
Violations
Fines, Inspections, ETC.
IN FINAL CONSTRUCTION
Facilities
Names
Addresses
Contacts
ETC
"BACKBONE" OF SYSTEM
Permit Writers
Official Record of Permitted Operations, Constraints, Applicable Regulations, ETC.
EXPANDING
Fees
Fee Calculations
Emission Totals
Invoicing
ETC.
Stack Test
Details of testing, schedules, results, etc.
UNDER CONSTRUCTION
Emission Sources
Emission Source Listing + Descriptions
Control Device ID + Descriptions,
ETC.
Document Control
CENTRAL OFFICIAL
Correspondence
Calculation Records
Permit Copies
ETC.
Emissions Data (ED)
Emission Calculation
Emission Release Data
Control Efficiencies
Links to AERO/WEB
ETC.
EVER IMPROVING
The Future
Continued Needs Assessment
ITSC

Some Measures to Assure Best Inventory Possible

- Have the data users involved in the decision process for data collection
- Use the same language – subtle meanings
- Make sure the data submitter is clear on what is required and how the data are to be used
- Make sure that the hand-off of data to next party includes awareness of details, problems, issues and other caveats
- Don’t screw up the arithmetic!

Conclusions

- NC Inventory is fairly typical
  - It has flaws
  - It provides pretty good estimates
- Data System is Critical Component
- All parts of AQ Management must work together with same data
- Teamwork is important – the system is *"sacred"*