

FSUTMS Air Quality Postprocessor

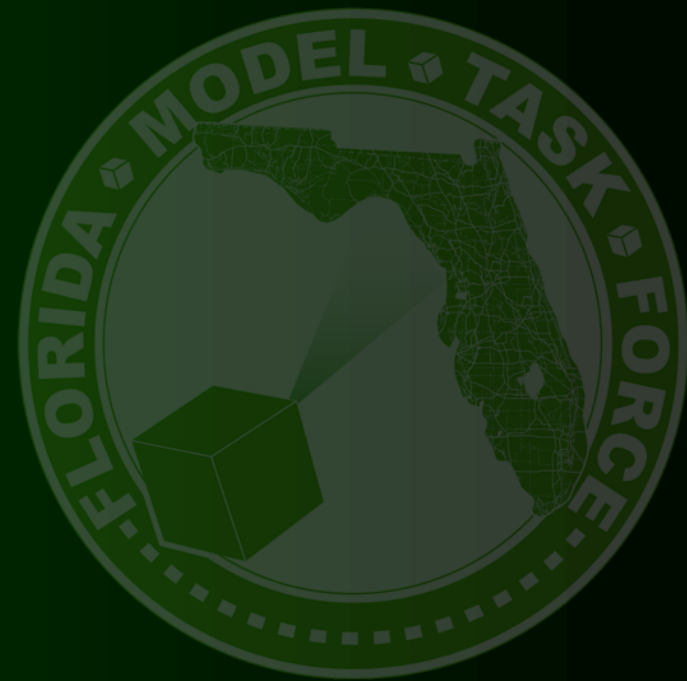
presented to

Full MTF

presented by

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Overview

- What is the FSUTMS Air Quality Postprocessor (AQPP)?
- Benefits of the FSUTMS AQPP
- Emissions Calculation Process
- Impacted FSUTMS Models
- Schedule
- FSUTMS AQPP Training Opportunities
- Next Steps
- 1 ● Demonstration



What is the FSUTMS AQPP?

- A module within FSUTMS/Cube Voyager that calculates emissions for portions of the nonattainment area (NAA) inside the FSUTMS travel demand model
- Calculates:
 - Emissions related to Ozone formation
 - Oxides of Nitrogen (NO_x)
 - Volatile Organic Compounds (VOCs)
 - Emissions related to Greenhouse Gas (GHG) formation
 - Carbon Dioxide Equivalents (CO₂eq)
 - Methane (CH₄)
 - Nitrous Oxide (N₂O)
- Users:
 - Ozone NAAs for conformity
 - Areas interested in measuring GHG emissions





Benefits of the FSUTMS AQPP

- **Streamlines Calculation of Emissions**
 - Minimizes number of times needed to run MOVES
 - Shorter run times
 - Outputs summary tables in .csv and .dbf format
- **Standardized approach**
 - Reduces human error
 - Facilitates transferability
 - Streamlines interagency consultation process
- **Outputs loaded network with emissions by pollutant on each link (total and per mile) to visualize emissions geographically**

Benefits of the FSUTMS AQPP (Cont'd)

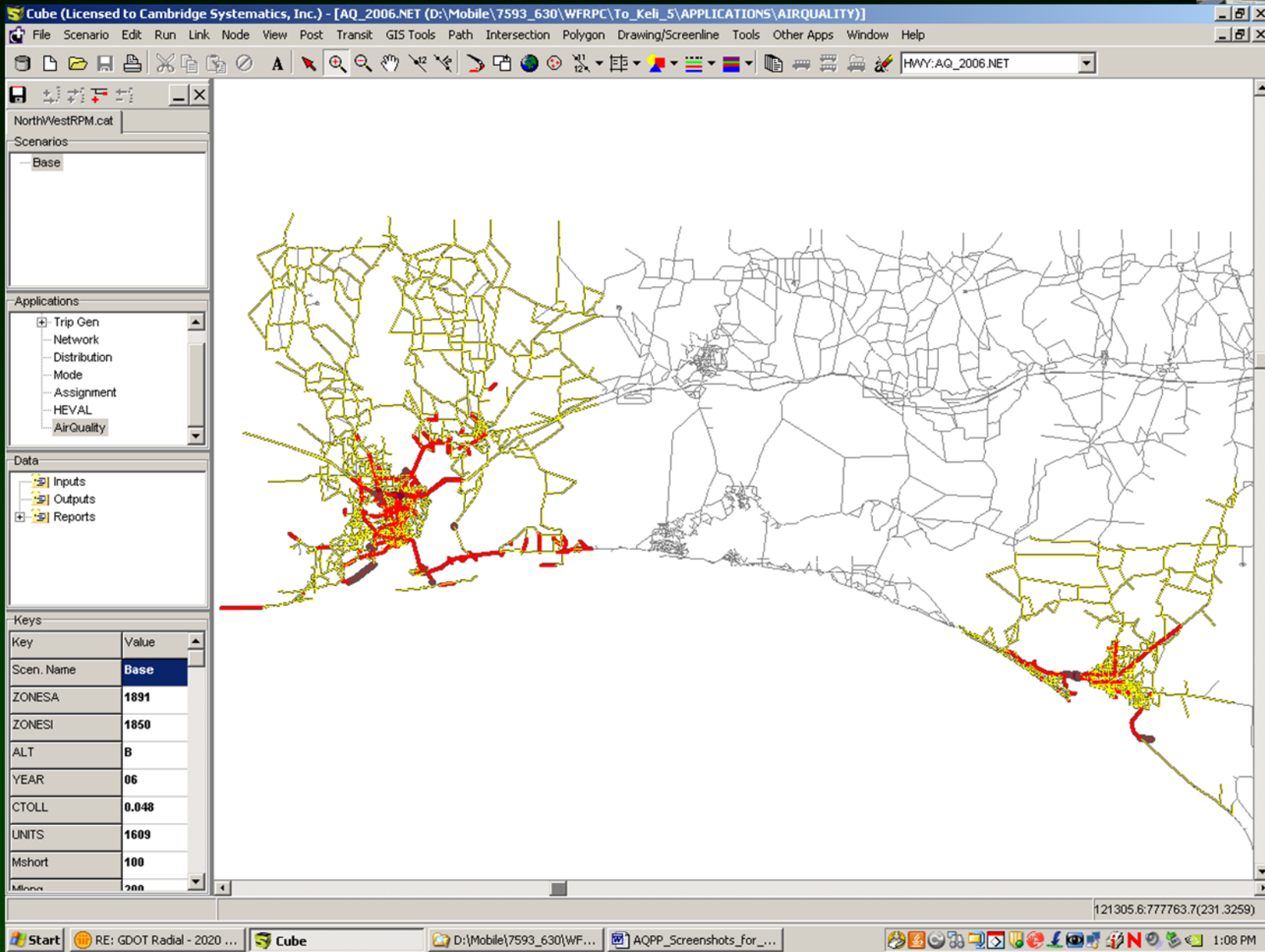
Output Summary Table

SUMMARY OF AIR QUALITY FOR ALL THREE COUNTIES

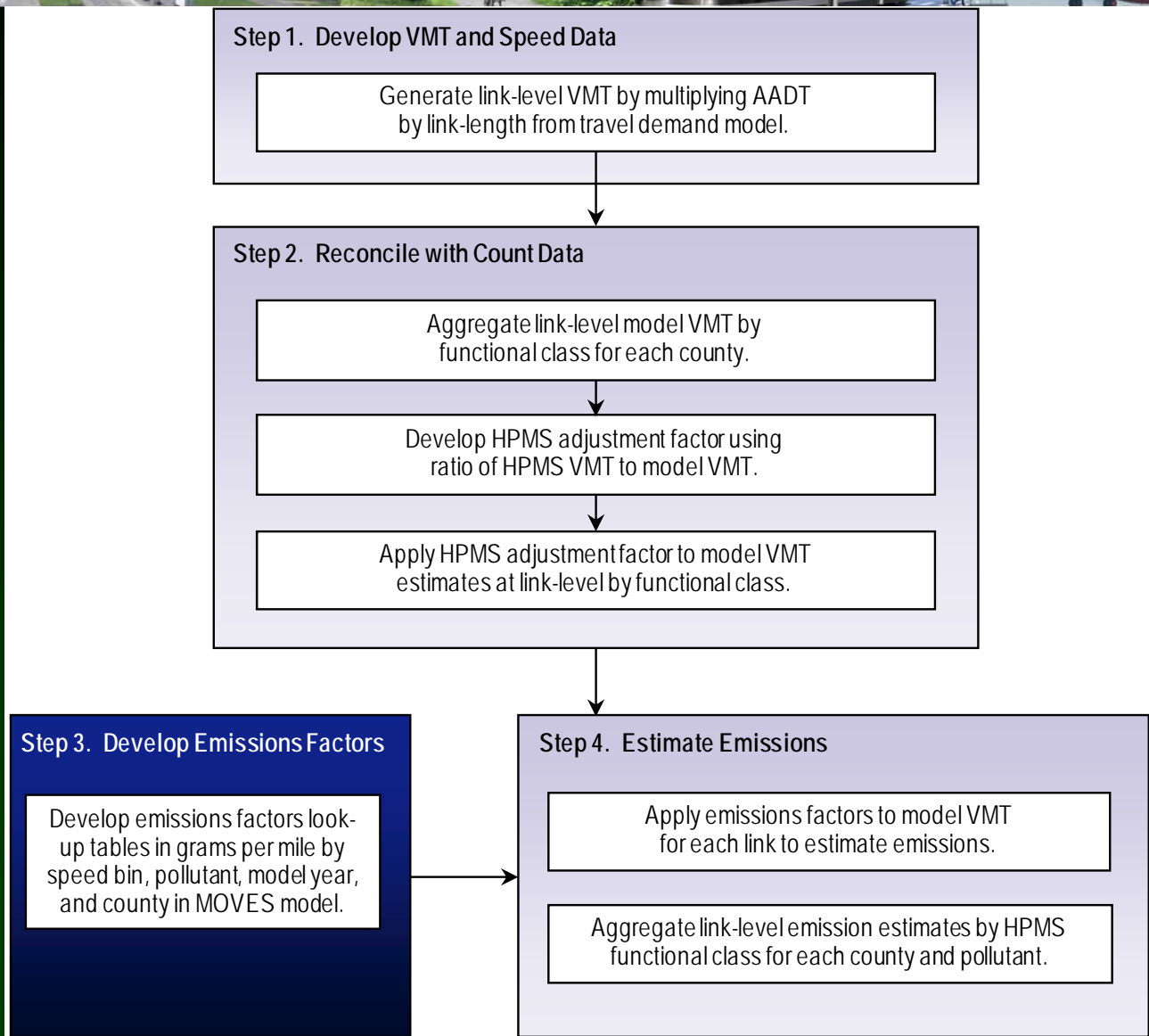
DESCRIPTION	HPMS	Daily Model	Daily HPMS	Daily Model	Daily Model NOX	Daily Model VOC	Daily Model CO2eq
NAME	CLASS	UNADJ. VMT	ADJ. FACTOR	ADJUSTED VMT	(gms)	(gms)	(gms)
Rural Interstate	1	431660.4	0.8193	353670.3	2230370	141597.5	283240161
Rural Principal Arterial	2	1133389.7	0.6621	750358.8	4771367.8	327602.3	608713095
Rural Minor Arterial	6	945413.5	0.6846	647243.2	4342938.9	321148.3	542662199
Rural Major Collector	7	147404.7	0.8503	125340	823630	59505.7	104139257
Rural Minor Collector	8	104244.3	2.2597	235561.2	1659893.4	124230.8	207314002
Rural Local	9	719137.9	0.7917	569362.8	4877153.2	427691.1	583756735
Urban Interstate	11	1639814.6	0.8512	1395811.5	9562610.4	644999.8	1194210466
Urban Freeway	12	0	0	0	0	0	0
Urban Other Arterial	14	5037196.4	0.949	4780487.9	36994655.5	3029946.7	4500363461
Urban Minor Arterial	16	3702246.4	0.9835	3641087.6	27429076.6	2160269.2	3343342866
Urban Collector	17	2476235.6	0.9528	2359331.4	17955054.2	1391454.8	2181185141
Urban Local	19	2073585.9	2.7422	5686197.8	51673131.2	4876668	6209710671

Benefits of the FSUTMS AQPP (Cont'd)

Output
Loaded
Network



Emissions Calculation Process



FSUTMS/Cube Voyager procedure



MOVES procedure
(conducted by user outside of FSUTMS/Cube Voyager)





Impacted FSUTMS Models

- Currently exceeds 0.075 ppm standard based on 2007-2009 ozone monitoring data
 - Northwest Florida Regional Planning Model
 - Tampa Bay Regional Planning Model
- What happens if a potentially stricter standard is implemented?



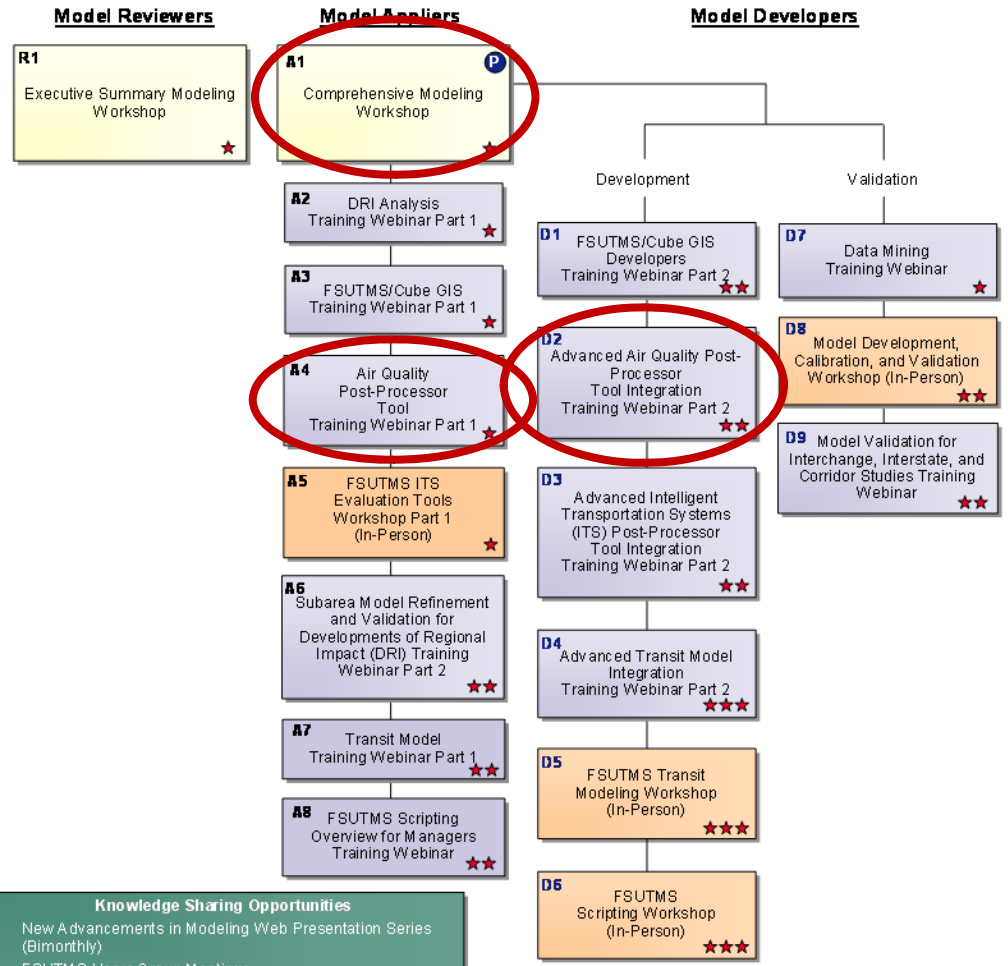
Schedule

- **December 2009 – MOVES2009 Final Release**
- **Early 2010 – NAAs run MOVES emissions factors using final release and localized parameters & FDOT finalize AQPP process**
- **Spring/Summer 2010 – AQPPs complete for currently anticipated NAAs based on 0.075 ppm standard (base year)**
- **Fall 2010 – AQPPs complete for anticipated NAAs based on a potentially stricter standard (base year)**
- **August 2011 – EPA designates Ozone NAAs**
- **August 2012 – Ozone NAA Conformity Determination Reports (CDRs) Must be Approved by U.S. DOT**



FSUTMS AQPP Training Opportunities

FSUTMS Modeling Training Series



- Knowledge Sharing Opportunities**
- New Advancements in Modeling Web Presentation Series (Bimonthly)
 - FSUTMS Users Group Meetings
 - Full Model Task Force Meetings (Held Once a Year)
 - Florida Model Applications (Conference Held Every Other Year)

Contact:

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<p>Estimated Level of Difficulty</p> <p>★ Basic</p> <p>★★ Intermediate</p> <p>★★★ Advanced</p>	<p>P Recommended Prerequisite (or comparable experience)</p> <p>A# Apppliers Course Number</p> <p>D# Developers Course Number</p> <p>R# Reviewers Course Number</p>	<p> In-Person Workshop</p> <p> Live Training Webinar</p> <p> Computer-based Training or In-Person Workshop</p> <p> Knowledge Sharing Opportunities</p>
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Next Steps

- **Coordinate FSUTMS AQPP process with:**
 - EPA Region 4
 - FHWA FL Division and Resource Center
 - DEP SIP emissions budget calculation process
 - FDOT Districts
 - Potential ozone nonattainment areas (MPOs/Counties)
- **Formalize interagency consultation process**
 - Ozone baseline year (2007?)
 - MOVES input parameters by County
 - Use of HPMS adjustment factors
- **Upon final MOVES2009 release:**
 - Localize MOVES input parameters in coordination with DEP
 - Run MOVES emissions factors for base year





Northwest Florida REGIONAL PLANNING MODEL

Scenarios

- Base

Applications

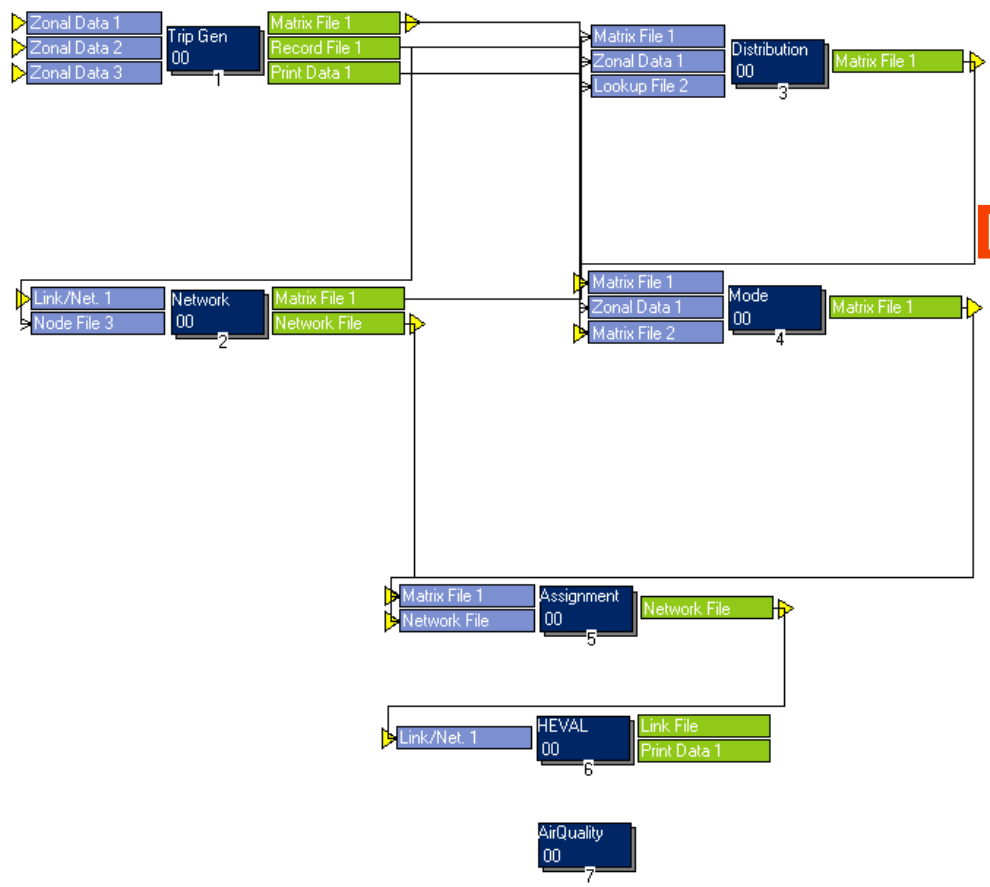
- NWFRPM
 - Trip Gen
 - Network
 - Distribution
 - Mode
 - Assignment
 - HEVAL
 - AirQuality

Data

- Inputs
- Outputs
- Reports

Keys

Key	Value
Scen. Name	Base
ZONESA	1891
ZONESI	1850
ALT	B
YEAR	06
CTOLL	0.048
UNITS	1609
Mshort	100
Mlong	200
descr	NWFRPM
PATHGROUP	FAC_TYPE



Demonstration of the FSUTMS AQPP

- > Locally linked input file
- >> Public File
- Externally linked input file
- ◆ Scenario Specific File
- Iteration specific file
- ▶ File name includes a Catalog Key
- ▶ Script file references a Catalog Key



Contact Information

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