



Dallas-Fort Worth International Airport Reducing Air Pollution at Airports

STAPPA/ALAPLO
Fall Membership Meeting
Ritz Carlton
Pentagon City
Arlington, VA

October 26, 2005
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Executive Vice President, Operations



Airport Overview

DFW – The Economic Engine of North Texas

- Generates \$15B annually to North Texas economy and supports some 270,000 area jobs for a total of \$6 Billion in personal income
- DFW Airport is the world's 2nd largest airport encompassing 18,000 acres including 9,000 acres of natural resource areas
- Ranked third worldwide in operations totaling over 765,000 annually.
- Ranked sixth worldwide in serving 53M passengers.





DFW ENVIRONMENTAL IMPACT STRATEGIES

DFW's primary mission is to achieve sustainability that assures continuation of present DFW operations and provides the necessary infrastructure to accommodate future planned growth without sacrificing operational or environmental integrity.

The primary mission of sustainable economic growth and development places a high priority on environmental stewardship.

This presentation will briefly highlight some of DFW Airport's Environmental Innovations in the areas of:

- DFW's Environmental Management System
- Air Quality Initiatives

Environmental Management System (EMS)

A Balance of Nature and Global Technology



DFW's Environmental Management System provides a platform to achieve sustainable economic growth and development while preserving environmental integrity.



Environmental Management System (EMS)

- EPA has been evaluating new initiatives to assist organizations with systematically managing compliance with environmental legislation over the past decade.
- Environmental Management Systems (EMSs) are one tool being emphasized to improve environmental compliance and to foster environmental performance and stewardship throughout facility operations.
- DFW has implemented an EMS based on EPA's Corporate Compliance Criteria for an Effective Program to Prevent and Detect Violations of Law (the twelve element EPA/NEIC (National Enforcement Investigation Center) compliance-focused model).
- DFW's EMS was developed and implemented "in-house" by DFW Board employees promoting ownership and exhibiting a top-down commitment to environmental stewardship.
- DFW's EMS follows an approach of "plan, do, check, and act" which is a systems methodology rather than the traditional command and control approach.



Environmental Management System

Benefits of the EMS

- Environmental stewardship becomes a part of the daily responsibility for employees across the entire organization, not just the environmental department.
- Improves working relationships between Departments and furthers environmentally related cost efficiency over time.
- Is dynamic, recognizing DFW's ever-changing operations landscape and continuously emerging environmental laws and regulations.
- Implementation is consistent with the expectations of the regulatory enforcement agencies at all levels of government and accesses DFW to governmental public policy incentives.
- Makes environmental compliance at DFW transparent.
- Encourages and facilitates the establishment of a corporate culture commitment to sustainable environmental stewardship.



CLEAN AIR POLICY



The “DFW Metroplex” was designated a Serious Ozone Non-attainment Area in 2001 requiring a new State Implementation Plan (SIP).

DFW’s Clean Air Policy states:

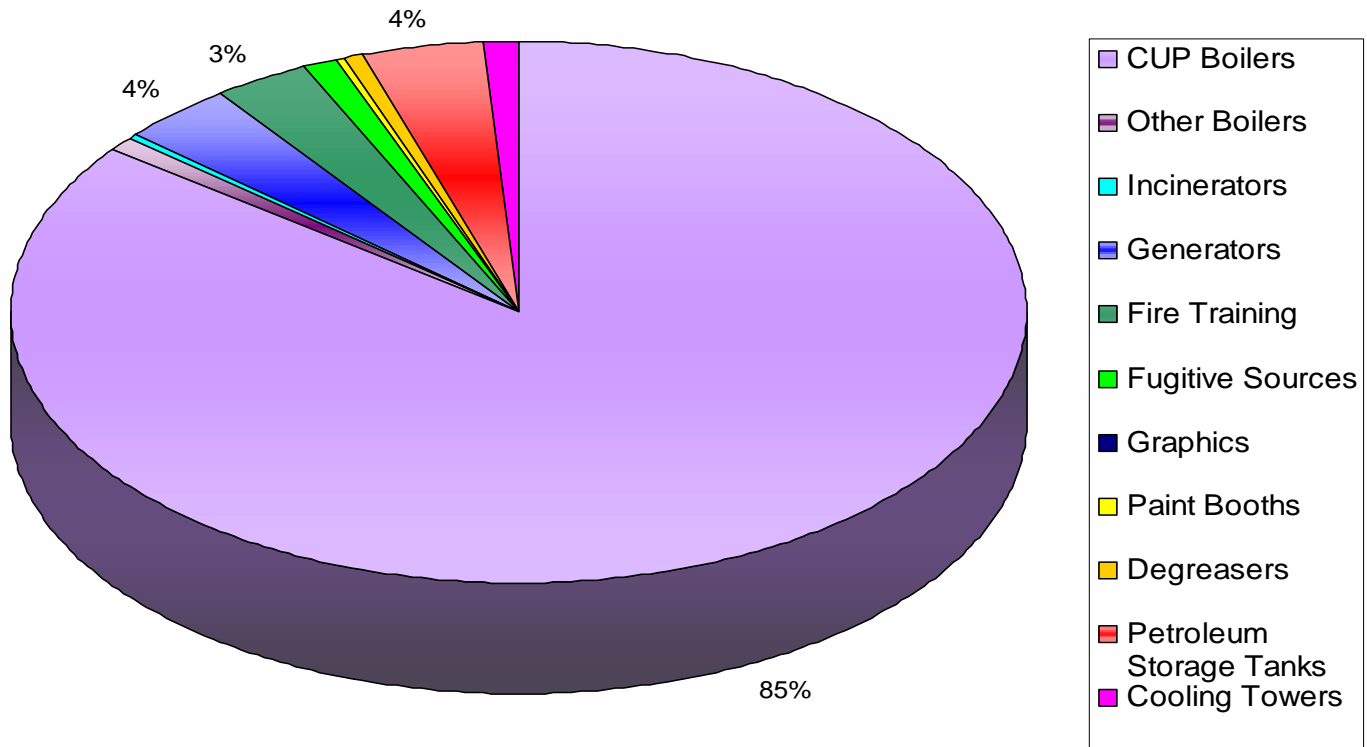
Recognizing the importance of clean air to Dallas, Fort Worth and the Region, the Dallas/Fort Worth International Airport Board is committed to improving air quality by reducing air pollution from Airport operations and increasing energy efficiency.

Through strong environmental innovations driven by DFW Board’s Clean Air Policy, DFW has rolled back emissions 95%!



DFW Stationary Emission Sources

Central Utility Plant Boilers make up 85% of Stationary Emission Sources





Stationary Source Milestones

Pursuant to DFW Airport's Clean Air Policy and Implementation directives under the EMS, three Utility Plant Boilers were replaced with new state-of-the-art, ultra-low NOx emission technology.

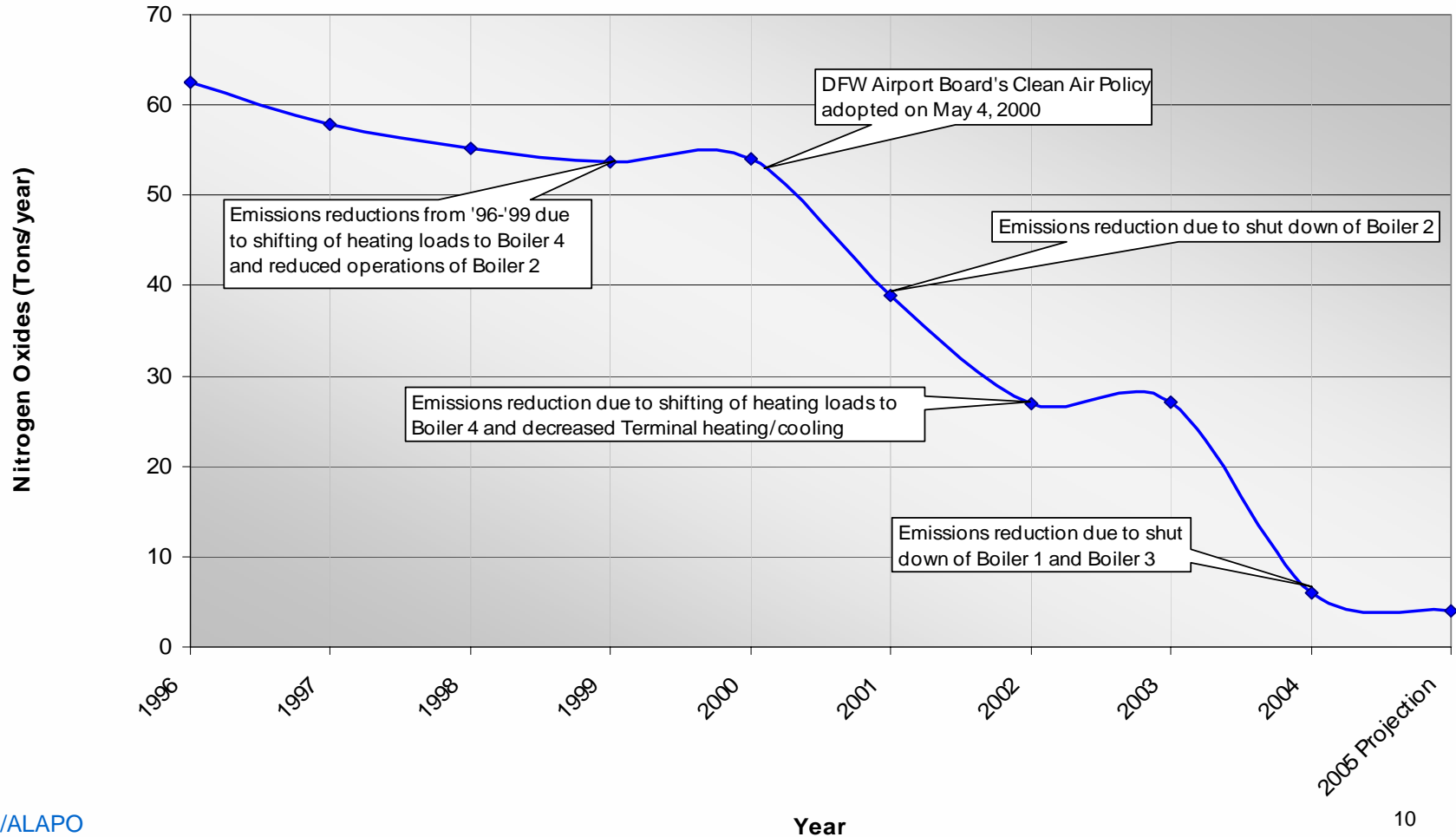
These policies have accomplished the following results:

- **Major Source Status** - As of April 2004, DFW Airport is no longer classified as a "Major" source of NOx pollutants.
- **Potential Emissions** - The shutdown of Grandfathered Utility Plant Boilers has reduced the Airport's "potential-to-emit [PTE]" NOx by 326 tons/year [89% reduction].
- **Emissions Reductions** - DFW Airport averaged 39 tons per year of NOx emissions from boiler operations prior to the CUP upgrades project . The new low-NOx boilers are estimated to reduce NOx emissions by 95% [approximately 2 tons/year].
- **Emissions Credits** - Permanent shutdown of Boilers 1 & 3 has allowed DFW's Board to generate 30 Tons of NOx Emission Reduction Credits [ERCs] on an annual basis.



1996-2005 NOx Emissions Trends

Central Utility Plant Boilers

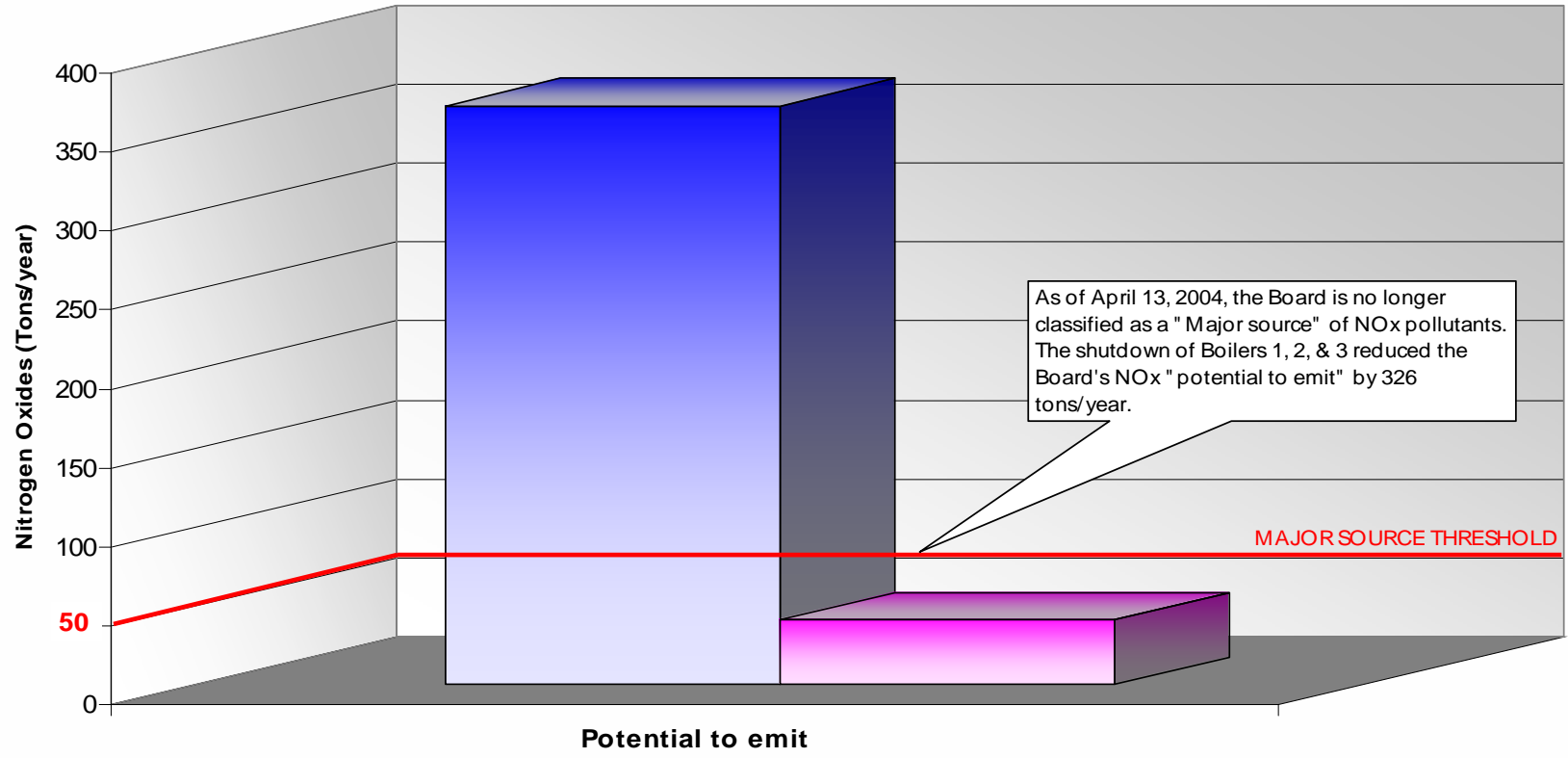




Potential NOx Emissions

Central Utility Plant Upgrades Project

Pre-CUP Upgrades Post-CUP Upgrades





Mobile Source Milestones



- 87% of DFW's Light & Medium Duty Fleet consists of vehicles which meet or exceed Super Ultra Low Emission Vehicle Standards (SULEV) as defined by EPA's National Low Emission Vehicle (NLEV) program
- DFW has converted 100% of the Bus & Shuttle Van Fleet to Alternative Fuel Vehicles
- 100% of the Light & Medium Duty Fleet and 72% of the Heavy Duty & Off-road Fleet were converted to Alternative Fuel Vehicles
- DFW has converted 3% of the Light & Medium Duty Fleet to Hybrid and Electric Vehicles
- DFW has achieved an estimated 2 tons per ozone season day reduction in NOx emissions from the fleet conversion program



Fueling Infrastructure

Public Access CNG Refueling Station



- Multiple storage banks capable of simultaneously fueling 8 passenger buses

- Highest volume station in America
 - 1.3 million gallons/year
 - \$2.0 mil savings over gasoline per year



FAA Inherently Low Emission Airport Vehicle (ILEAV) Pilot Program

Memorandum of Agreement with TCEQ to reduce GSE NOx emission to 0.56 tpd by 2007



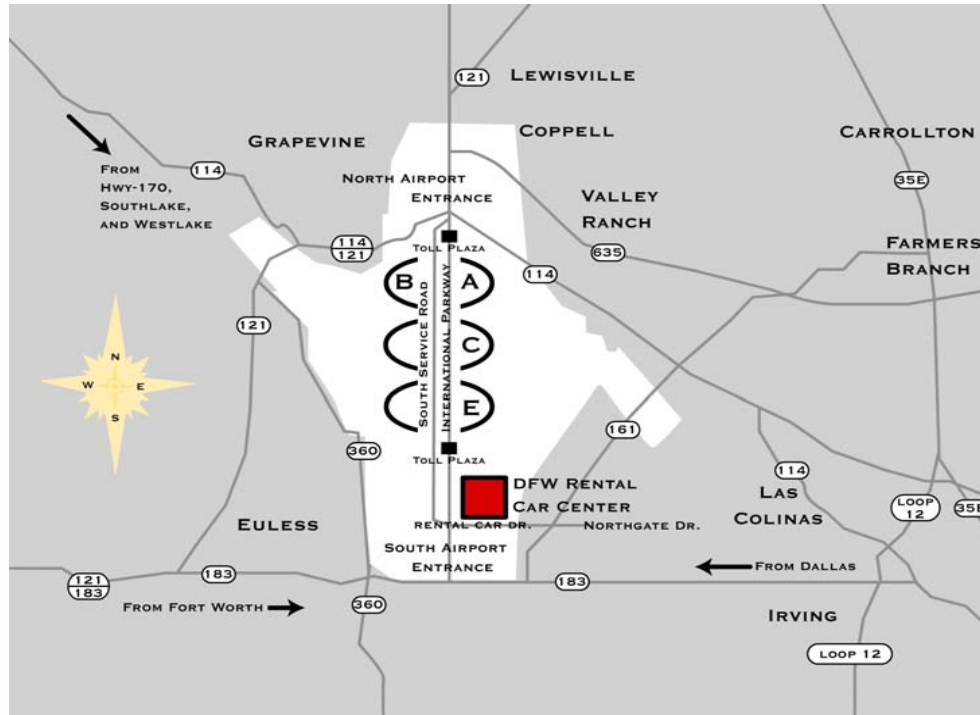
- Current GSE NOx emissions 5 tons per day (tpd)
- Over 2,150 units in service
- Over 530 electric GSE units in service at DFW, mostly operated by American Airlines



DOT/FAA ILEAV Pilot Program supporting the deployment of Electrically Powered GSE



Travel Demand Management



- Consolidated Rental Car Busing Operation (initiated March 1998)
- Reduced mileage driven by approximately 70%
- One fleet of 40 buses traveling a shorter distance
- Estimated NOx reductions are almost 1 ton per day
- Win – win
 - Customer service
 - Lower cost
 - Lower emissions



Other Source Reductions

- New International terminal, which opened in July 2005 incorporates PCA and 400 Hz electric at all gate locations (reduced APU use).
- Skylink (Automated People Mover System), began operation in July 2005, and reduces dependence on Terminal Link bus system.
- Easy Pass Parking (Passkey) System has reduced queue delays at parking control toll plazas by 90%, thereby reducing idle time and associated emissions. The system served over 100,000 vehicles per ozone season weekday.
- Perimeter Taxiways and RNAV (Area Navigation) Procedures will further reduce aircraft emissions on the ground (queuing) and in flight.

Insight Provided By Apollo 11 7- 16 - 1969

Motivation:

“Dad, change the air”

Jonathan Crites



Plan:

*“Action without philosophy is a lethal weapon;
Philosophy without action is worthless”*

Soichiro Honda

Implementation: *“Gung Ho”*

(working together)

Chinese view of USMC



SUMMARY

DFW declared its unqualified commitment to achieving environmental leadership through an enduring commitment to environmental excellence.

DFW Airport's commitment to the principles of environmental stewardship through pollution prevention, source reduction, waste minimization and continual improvement is indispensable to fulfilling our public trust responsibility.

The “Real” Metric . . .



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