

Air Education and Training Command

Replenishing the Combat Capability of America's Air Force



U.S. AIR FORCE

Lackland Air Force Base
Environmental Program

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Chief, Environmental Flight
14 August 2003

Integrity - Service - Excellence



Overview



- Environmental challenges for San Antonio
- Success Stories
- Environmental Challenges
- Environmental Management System



Brief History



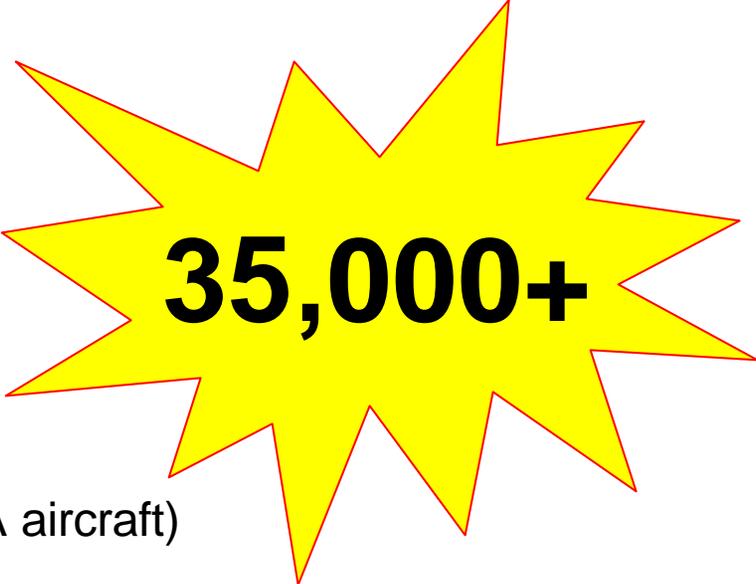
- Main Base – 2,752 acres
 - Originally part of Kelly AFB
 - 1920's – 1930's - Used for bombing ranges
 - 1942 – aviation and cadet training center
 - 1947 – designated as Lackland AFB
- Lackland Training Annex – 3,973 acres
 - 1954 – Built by Armed Forces Special Weapons Program – one of six national stockpiles of nuclear weapons (Medina Base)
 - 1958 – Transferred to Atomic Energy Commission – modified and dismantled nuclear weapons
 - 1966 – Transferred to Lackland AFB
- Kelly Field Annex – 2,068 acres
 - Realigned portion of Kelly AFB – includes flight line and all property west of flight line
- KellyUSA Leaseback Areas
 - Government still uses buildings east of runway – maintained by Lackland AFB



Mission



- 37th Training Wing (Host Unit)
 - 100% of Basic Military Training – 40,000 students per year
 - 30% of Tech Training in 45 areas – 34,000 students per year
 - Defense Language Institute – teaches English as second language to over 2,000 foreign students
- 59th Medical Wing
 - Home to Wilford Hall Medical Center
- 651st Munitions
 - Storage of AF conventional weapons
- Air Intelligence Agency (AIA)
 - Information, intelligence, C2
- 433rd Airlift Wing
 - Air Force Reserve Command unit (C-5A aircraft)
- 149th Fighter Wing
 - Texas National Guard unit (F-16 aircraft)



35,000+



Challenges Facing San Antonio



- Drinking Water
 - Edward's Aquifer first to be designated as a "sole source aquifer" by EPA
 - Pumping limits required by US Fish & Wildlife Service (USFWS) to protect endangered species in Comal and San Marcos springs
 - Pumping limit for Edwards Aquifer set at 425,000 acre-feet/year; 700,000 has been requested by users
 - San Antonio Water System permitted at 120,000 acre-feet annually; now using 135,000 acre-feet per year; expect 360,000 acre-feet requirement by 2050
 - Surface water will have to be used in San Antonio to make up difference but water projects at least 10 years away
- Ozone non-attainment
 - San Antonio exceeded 8 hour ozone limits in 2002
 - Air restrictions are coming for San Antonio metropolitan area
 - Listing by EPA expected in April 04
 - Tougher emission standards are likely



Impacts on Lackland



- Drinking Water
 - Dept of Defense was first target by USFWS for pumping restrictions from Edward's, even though we only use 2%
 - Lackland's limit is 4,100 acre-feet/year
 - Lackland usage in CY2001 was 3,700 acre-feet (91%)
 - Lackland will need non-Edward's source in order to support any substantial growth
 - Recycled water for non-potable use
 - Surface water for potable use
- Ozone non-attainment
 - Impacts not known at this point – State Implementaion Plan has to be written for San Antonio Metro Area first



Success Stories



- Restoration Site CF027
- Natural Gas Turbines
- Recycling Center
- Recycled Water



ERP Site CF027



Site CF027 (Former Security Forces Firing Range)

- Problem: soil contaminated with lead
- Solution: stabilize lead and reuse soil
 - Stabilized soil with chemical mixture – encapsulates lead so it won't leach
 - Stabilized soil used as foundation for adjacent landfill
 - Fill in settling/depressions
 - Provide even surface for installation of cap
 - Saved \$10 Million
 - 70,000 cubic yards of soil diverted from landfill and reused



CF027 Before Clean Up





CF027 During Clean Up





LF028 During CF027 Clean Up



AETC





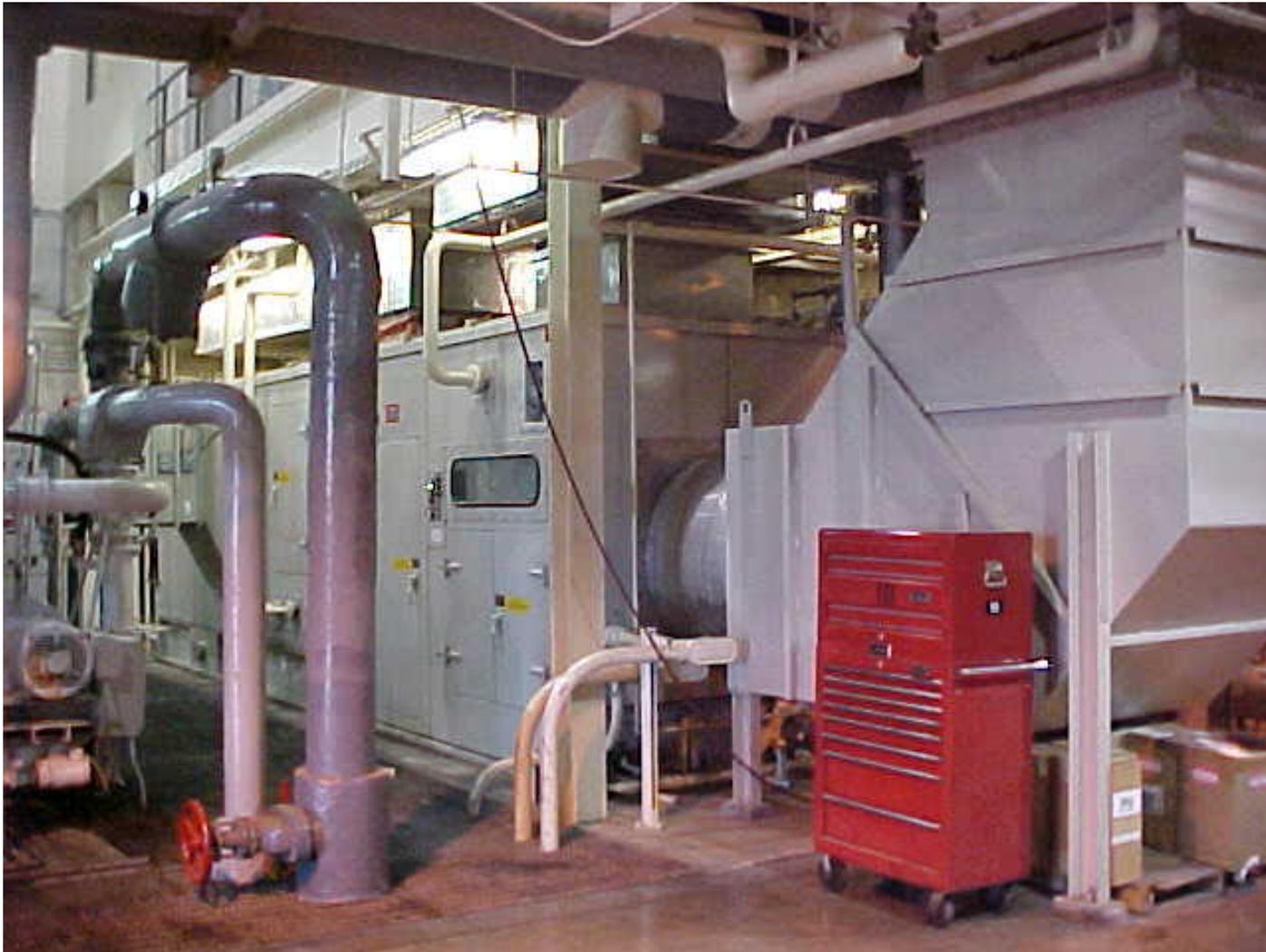
Gas Turbines at Total Energy Plant



- Total Energy Plant (TEP) supplies power to Wilford Hall Medical Center
- When constructed in 1978, power was supplied by six diesel generators
- In 1999, two diesels were replaced by natural gas turbine generators which became primary power plant
 - Four remaining diesel generators still used with gas turbines for back-up and load-leveling
- Affect on emissions at TEP
- 1997 1,086 tons
- 2000 335 tons

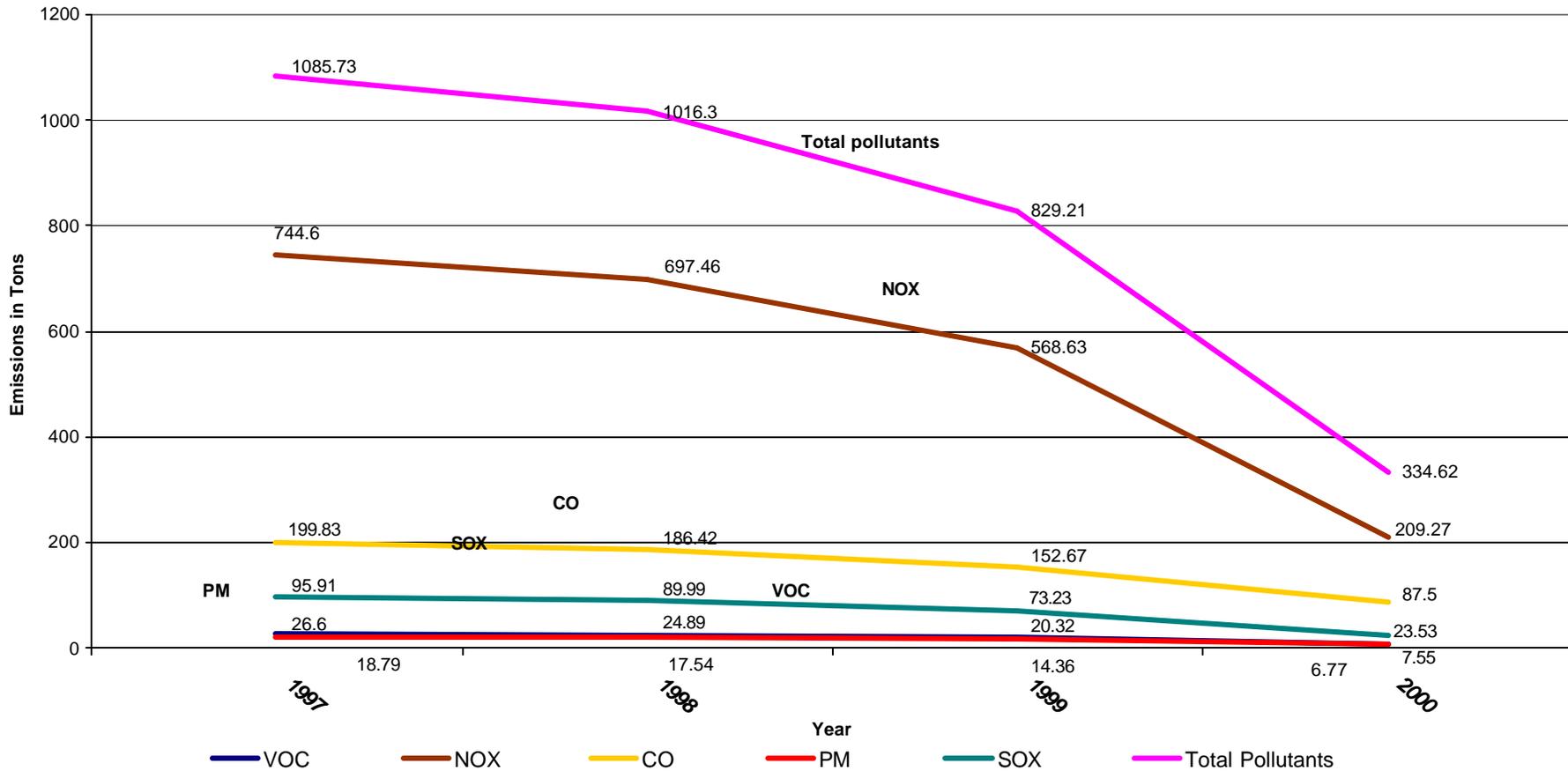


Gas Turbine Generator





TEP Emission Reductions





Recycling Center



- Lackland is member of Central Texas Recycling Association (CTRA), which represents:
 - 47 counties
 - 50 rural municipalities
 - 80 businesses
 - 15 independent school districts
 - 10 electric cooperatives, universities, and military bases
- Lackland was largest recycler in CTRA in 2001 and 2002
 - Lackland contributed 2,023 tons of the 10,363 tons handled by CTRA in 2001
 - Randolph AFB contributed 1,843 tons and Laughlin AFB had 310 tons – AETC bases provided 40% of material to CTRA
- Average annual export from recycling center – 6M pounds



Recycling Fashion Show





Recycled Water Project



- San Antonio Water System (SAWS) main purveyor of water in San Antonio; only source for wastewater treatment
- SAWS installed 75 miles of pipeline and associated pumps from Leon Creek and Salado Creek Water Recycler Centers to supply 35,000 acre-feet of recycled water per year
- Lackland will use 580 acre-feet per year to irrigate Parade Field and Gateway Hills Golf Course, and use in cooling towers at TEP
- Project will free up 15% of Lackland pumping limits for additional mission growth



Challenges



- Kelly Field Annex ERP Cleanup Strategy
- Atomic Energy Commission Sites
- Encroachment



KFA ERP Cleanup Strategy



- Challenge: Transfer of Kelly AFB property to Lackland AFB added 18 ERP sites to our inventory; 14 still open
 - Mostly industrial/hazardous waste rather than municipal
 - More groundwater contamination than Lackland sites
- Challenge: Increased cleanup time and costs
 - Schedule to complete: 2042
 - Cost to complete: \$209 (current year dollars)
 - Most of out year cost is for operation and maintenance for groundwater collection and treatment



Atomic Energy Commission Sites



- Challenge: Nature of sites much different than usual restoration sites in the AF
 - Dealing with radioactive isotopes, radiation-contaminated debris, and explosives residues instead of solvents, fuels, insecticides, etc.
 - Dealing with classified information and processes
 - Definition of “releasable information” varies from DoE, AF, and Army
- Challenge: Records of operations very limited
 - Medina Complex built by Armed Forces Special Weapons Project and then run by AEC
 - No interaction with Lackland until property transferred in 1966, records transfer limited or lost
 - AEC shut down in 1975, DoE started up in 1977; records scattered
 - Best source of data came from Corps of Engineers on similar site at Fort Hood
- Challenge: Community still skeptical of AEC activities



Photo of Explosion



31-13-63





Encroachment



- Indirect Encroachment – regulatory restrictions on mission or land use
 - Lackland AFB has more stringent pumping restrictions than San Antonio metro area –
 - Threatened and endangered species in San Marcos and Comal Rivers the trigger
 - Threatened and endangered species on the base not an issue
 - Ozone non-attainment will likely lead to air emissions restrictions in the future
- Direct Encroachment – development near base limiting factor
 - Developers trying to change local zoning to allow housing in accident potential zones
 - San Antonio City Council has sided with Lackland on past four attempts
 - Noise always an issue with some part of community



Lackland EMS



- Training
 - Env. Flight level - 3 day implementation and 5 day auditor
 - Squadron and Group level – 1 day awareness
- Personnel
 - Dedicated EMS and ESOHCAMP manager
 - Forming EMS Management Team
- Next Steps (short term)
 - Implementation training for Management Team
 - Creation of implementation team
 - Training for implementation team
 - Aspect and impact analysis

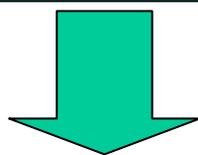


Preliminary Concept



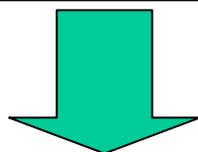
EMS Leadership Team = Environmental Protection Committee

Chaired by: Installation Commander (37 TRW/CC)
Consists of: All Group and associate unit commanders



Management Team = EMS Subcommittee

Chaired by: Mission Support Group (37 MSG/CD)
Consists of: All Group and associate unit appointees



Implementation Team = EMS Working Group

Chaired by: Environmental Flight
Consists of: All Group and associate unit Appointees