

How Sandia National Labs is

Meeting the Transportation Requirements of EO 13423

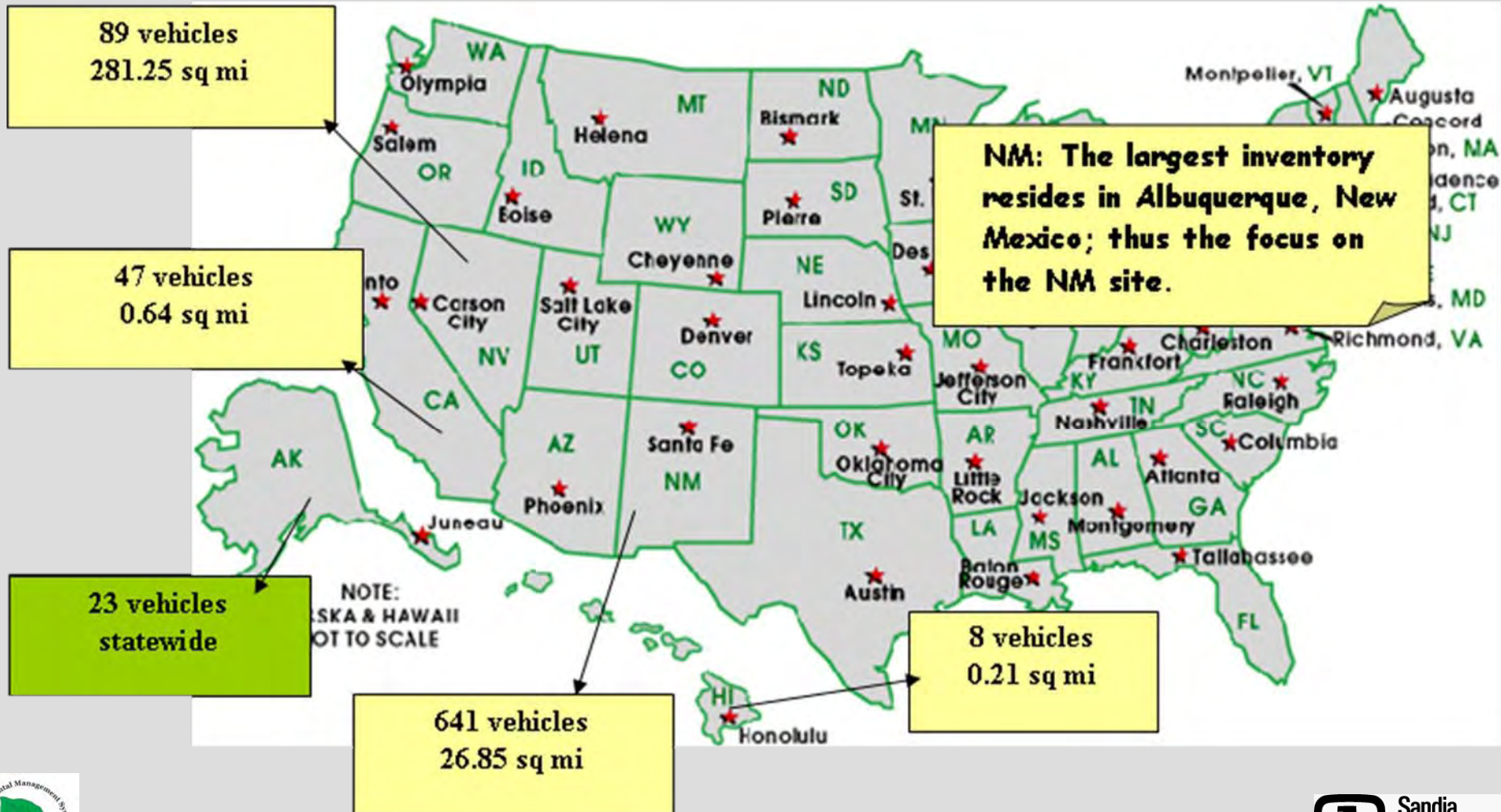
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AP**

**Presented at the 2008 DOE P2 Star
Awards Ceremony**

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under Contract DE-AC04-94AL85000.



Sandia Fleet



Sustainable Transportation at Sandia

- **All DOE Order 430.2b goals have already been met.**
- **Fleet Services has historically had a partnership with P2 and, more recently, with EMS.**
 - **Fleet is a member of the EMS Core Team.**
 - **Aspects are evaluated and objectives and targets are included in division EMS Action Plan and the corporate EMS Manual.**

E.O. 13423 Requirement

- Increase overall fleet fuel economy through acquisition of higher fuel economy vehicles (e.g., smaller sized vehicles, hybrid-electric vehicles, and other advanced technology vehicles).

YEAR	Replacement with AFV
FY03	70%
FY04	95.7%
FY05	98.2 %
FY06	98.5%

E.O. 13423 Requirement

- Right-size” fleet, employ the most fuel-efficient vehicle for the required task and have the appropriate number of vehicles.

Site	Vehicle Inventory Count	Area (SqMi)	Workforce (including SubCon)	People to Vehicle Ratio
NTS	1070	1375	1,860	1.7:1
PTX	332	3.125	3,233	9.7:1
Y12	690	1.267	6,000	8.7:1
LANL	1566	39.5	11,300	7.2:1
LLNL	1093	1	8,000	7.3:1
SNL	808	308.95	10,134	12.5:1

Sizing SNL's Fleet - SNL has:

- Best Person to vehicle ratio in the complex
- The 2nd largest land mass - across 4 main sites plus remotes
- The 2nd largest workforce
- One of the smallest fleet inventories across the complex
- SNL's Vehicles (808) is still a smaller fleet than LANL(1566)

E.O. 13423 Requirement

- By the end of FY 2008, have an plan to ensure the exclusive use of alternative fuel, either on site or within 5 miles of the site.

YEAR	E-85	CNG	Bio-D	Petro
2003	90	6,050	0	234,176
2004	10,020	2,333	0	222,115
2005	39,306	707	6,261	230,921
2006	35,387	528	5,946	181,933
2007	59,096	1,070	6,418	151,763

Alternative Fuels & Petroleum Reduction

Successful transition to AFVs using one of four alternative fuels: Electric, B-20, CNG, and E-85

- One of the largest populations of certified AFVs in the NNSA fleet at 79%
- Noted by NNSA as setting an example for alternative fuel use within the NNSA fleet
- E-85 use quadrupled in one year, “demonstrating SNL’s leadership”

Repositioning to replace SNL’s total diesel with B-20

Compliance with EO13149 as applicable to Vehicles (One of the few NNSA labs to successfully accomplish this)

Complying with the Presidential Memorandum of September 26, 2005 through further reduction of petroleum fuels use:

- Reduction of 5.4K gallons in 1st & 2nd Quarter, FY06
- Promoted using smaller, more efficient utility vehicles (Tiger Trucks)

The Department of Energy (DOE) has been awarded the Closing the Circle Award with SNL’s assistance as part of fleet petroleum fuel reduction strategy using alternative fuels

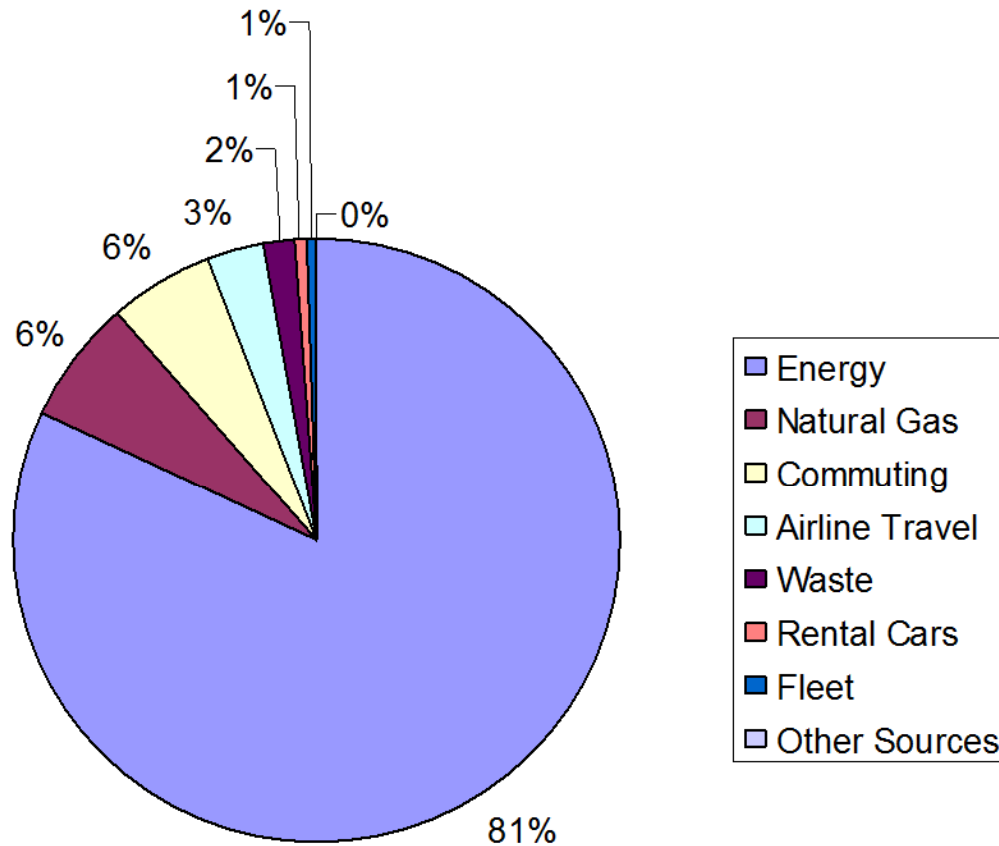
Environmentally Friendly Alternatives

- Carwash water recovery
- Detergents, such as simple green
- Rags are laundered
- Canola based bio hydraulic oil
- Closed loop re-refined oil system
- Antifreeze recycled - ethylene glycol, more friendly antifreeze - propylene glycol (Sierra)
- Purchase retread tires

What didn't Work

- Microbial cleaners
- Aqueous based parts cleaners
- Soy-based hydraulic oil
 - Plugged filters
 - Some pump failures
 - cold weather gelling
 - factory warranty denied at dealer
- Bio-based solvents

SNL/NM's Carbon Footprint



SNL/NM Carbon Footprint by Category

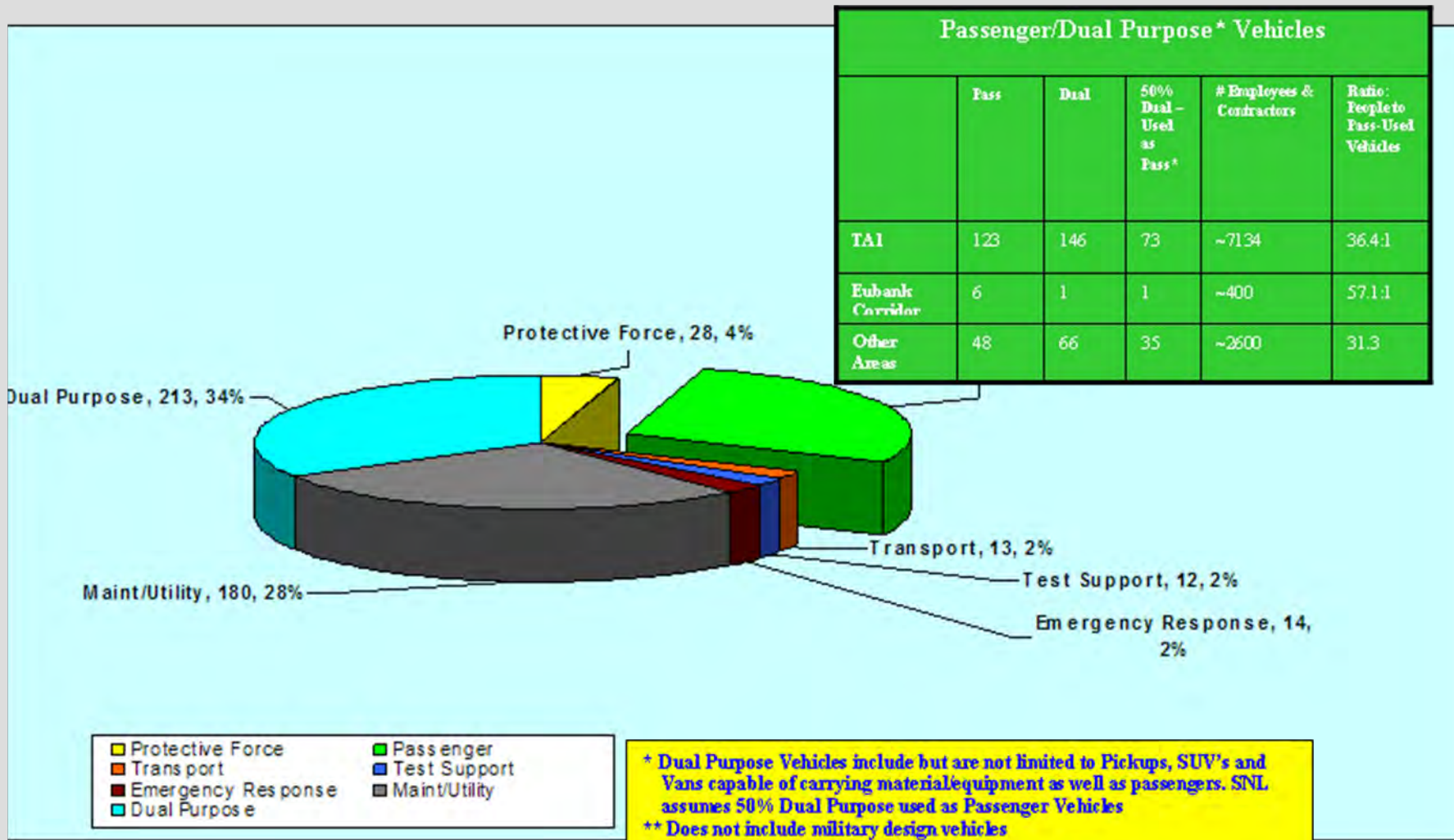


SNL is a GREEN Fleet

- **SNL has contributed significantly to the success of the NNSA complex.**
- **We will further optimize benefits to the environment and continue to reduce emissions.**
- **We will continue to be an environmental steward and follow best practices.**
- **Recommendations will factor in continued use of alternative fuel vehicles or green alternatives although they are not the most cost effective, but support environmental considerations.**

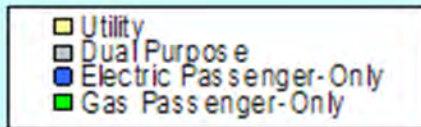
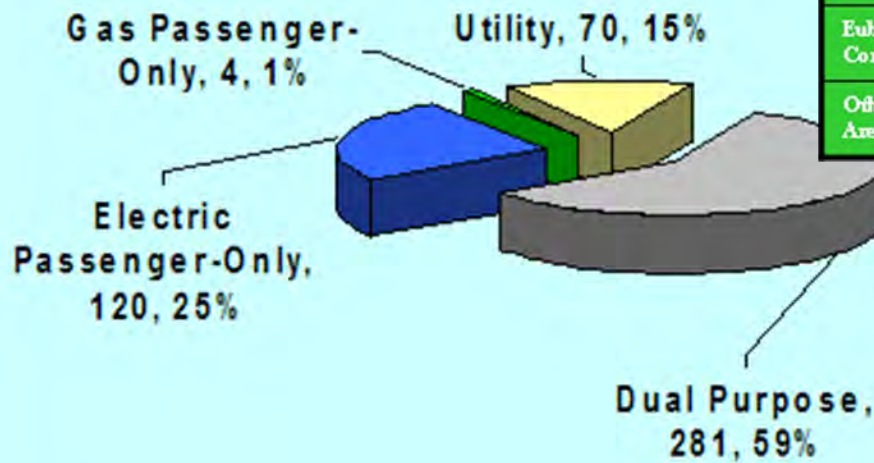


SNL/NM Fleet Distribution



* Dual Purpose Vehicles include but are not limited to Pickups, SUV's and Vans capable of carrying material/equipment as well as passengers. SNL assumes 50% Dual Purpose used as Passenger Vehicles
 ** Does not include military design vehicles
 *** Future growth not factored
 **** Numbers are approximate; based on the time of study

SNL/NM Cart Distribution



Passenger/Dual Purpose* Carts							
	Passenger		Dual Purpose		50% Dual Purpose - Used as Pass*	# Employees & Contractors	Ratio: People to Pass-Used Carts
	Electric	Gas	Electric	Gas			
TA1	96	4	24	227	125	~7134	31.7:1
Eubank Corridor	0	0	1	0	1	~400	400:1
Other Areas	24	0	6	23	15	~2600	66.7:1

*Dual Purpose Carts are capable of carrying material/equipment as well as passengers. SNL assumes 50% Dual Purpose used as Passenger Carts

Petroleum Consumption

Fiscal Year		Actual Fuel Consumption (Gal.)	Goal Fuel Consumption (Gal.)
1999 (Base Year)		330,000.0	330,000.0
2000		301,788.0	319,011.0
2001		237,289.3	308,022.0
2002		221,825.4	297,033.0
2003		236,610.7	286,044.0
2004		235,844.0	275,055.0
2005		221,851.0	264,000.0
2006		228,669.0	260,000.0

Percentage	Gallons of Consumption
100%	260,000 GGE of fuel or less
90%	265,000 – 260,000 gal.
80%	270,000 – 265,000 gal.
70%	275,000 – 270,000 gal.
60%	More than 275,000 gal.

Scoring	Petroleum Consumption
Outstanding	260,000 GGE of fuel or less
Good	260K GGE
Satisfactory	270K GGE
Unsatis.	>275K GGE