

# Hurlburt Field Alternative Fuels (E85/B20) Facility Conversion Case Study



*An Award Winning National Firm*

September 2004

# Hurlburt Field, Florida E85 Upgrade Agenda

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- Project Overview
- Design/Pre-Construction
- Cleaning Removal of Unleaded Tanks
- Saddle Removal and Area Preparation
- Removal/Installation of Dispensers
- New 12K Tanks (E85) Welding and Areas
- Consumption/Reduction Charts
- Questions and Answers

# Hurlburt Field E85 Project

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- **Repair and Upgrade Military Service Station, Facility 29064**

**Contractors: Innovative Technical Solutions Inc. (ITSI)  
The Source Group, Inc. (TSG)**

- Scope: Design, as-builds, removal of 2-12K tanks, dispensers, concrete saddles and install new 12K Highland tanks, 4 dual hose Bennett dispensers (1 – E85 compatible) new off-loading pump, valves, piping and concrete pad for off-loading E85 fuel to meet E.O. 13149
- Project Cost: \$240,000
- Award Date: 23 Sep 03
- Period of Performance: 23 Sep 03 – 30 Apr 04
- Start Date: 20 Jan 04
- Completion Date: 20 Feb 04
- Current Status (% complete): 100%
- Special comments: within 30 Days diesel and unleaded issuing fuel, E85 issuing 1 week later, due to ordering delay

# Hurlburt Field E85 Project Engineering by The Source Group (TSG)

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- Hurlburt Prepared Conceptual Design
- TSG Expanded Concept to 30%
- Hurlburt Reviewed and Edited 30%
- TSG Prepared 50%
- Hurlburt Reviewed and Approved 50%
- Final 50% Prepared
- Construction Began with 50%
- Post Construction As-builts

# Hurlburt Field E85 Project - Why Conversion?

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- Existing MoGas Systems **Not** Compatible
- Can Damage Engines and Storage Systems
- Degradation leads to Fuel Contamination
- Fuel Ethanol Blends Degrade:
  - “Soft” Metals - Zinc, Brass, Pb, Al
  - Terne (Pb & Sn) - used for Steel Tanks
  - Polyurethane, PVC, Cork Gaskets
  - Pre-Dec ‘98 Code Metal UST’s
  - Pre-1992 Fiberglass UST’s

# Pre-Construction



# Cleaning & Removal Unleaded Tanks



# Concrete Removal & Area Prepared for New 12K Tanks



# Removal & Installation of Dispensers



# New E-85 Tanks



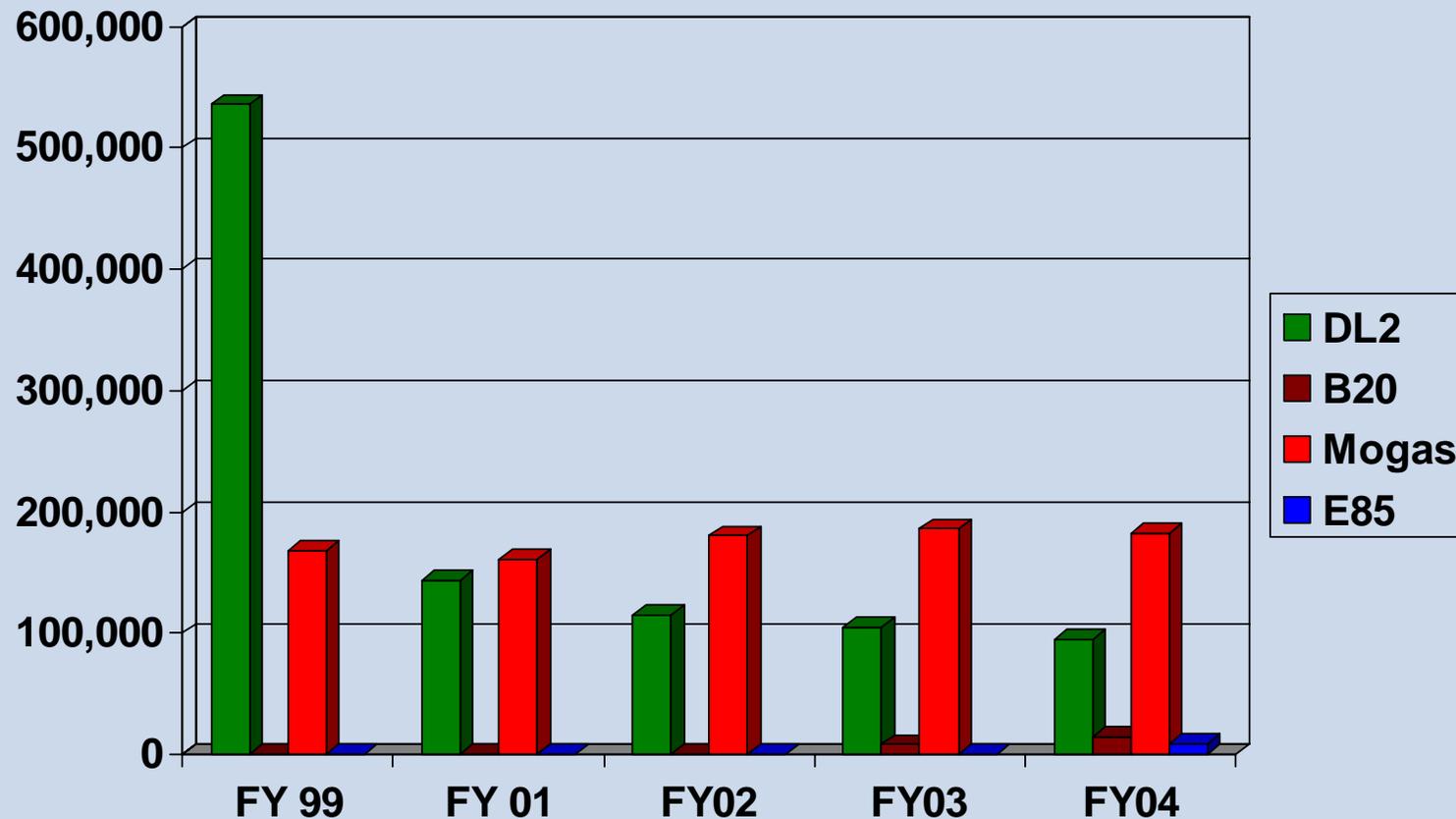
# Off-loading Area & Pipe Welding



# Hurlburt Receiving, Storing, Sampling & Issuing, DESC, E85 Fuel



# Hurlburt Field Alternative Fuel Usage



## Unleaded reduction from E85

### Unleaded (MUR)

- FY 99 – 167,754 gals
- FY 01 – 160,648 gals
- FY 02 – 180,117 gals
- FY 03 – 186,057 gals
- FY 04 – 180,795 gals

Note – Issues to Aug

\*15% added back into  
MUR total from E85

### E85

- FY 99 – 0 gals
- FY 01 – 0 gals
- FY 02 – 0 gals
- FY 03 – 0 gals
- FY 04 – 9234 gals

Note – Issues thru Aug

\*85% only, start Feb 04

# Diesel Reduction Utilizing B20

- Diesel
- FY 99 – 536,013 gals
  - FY 01 – 143,518 gals
  - FY 02 – 115,305 gals
  - FY 03 – 105,192 gals
  - FY 04 - 95,173 gals

Note- FY04 thru August  
Numbers include the 80%  
from B20 start April 03

- B100
- FY 99 – 0 gals
  - FY 01 – 0 gals
  - FY 02 – 0 gals
  - FY 03 – 8296 gals
  - FY 04 – 14,588 gals

Note- 20% from B20  
issues.

FY04 – 15% reduction

# Fuel Reduction from FY99 Hurlburt Field meeting goal of E.O. 13149

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- \*FY99 – 703,767 total all fuel
- FY01 – 304,166 – 56.7% reduction
- FY02 – 295,422 – 58.0% reduction
- \*FY03 – 291,249 – 58.6% reduction
- \*FY04 – 277,598 – 60.5% reduction

\*FY 99 Based on HQ AFSOC Numbers

\*Alternative fuels Start - B20/FY03 & E85/FY04

# Hurlburt Field, Florida

## Meeting E.O. 13149

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- Reducing consumption of fossil fuels
- POL enforced the use of E85/B20
- Key Encoded E85 only vehicles
- Converted MSS tanks to B20 only

# Questions and Answers

