CSXT A29312

# LOCOMOTIVE EMISSION
# AND
# ENGINE IDLE REDUCTION
# TECHNOLOGY DEMONSTRATION PROJECT

(April 8, 2003 – March 31, 2005)

## Implementation Of:
## United States Department of Energy Grant
## DE-FC36-02GO12022

## March 14, 2005


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## Final Report

## For
## Maryland Energy Administration
## GR# 2003-01-B2022
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## And
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**DRAFT Maryland Locomotive Idle Reduction Program**
**Demonstration Project – DE-FG36-02GO12022**

March 14, 2005

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## 1. Executive Summary

In response to a United States Department of Energy (DOE) solicitation, the Maryland Energy Administration (MEA), in partnership with CSX Transportation, Inc. (CSXT), submitted a proposal to DOE to support the demonstration of Auxiliary Power Unit (APU) technology on fifty-six CSXT locomotives.

The project purpose was to demonstrate the idle fuel savings, the Nitrous Oxide ($NO_X$) emissions reduction and the noise reduction capabilities of the APU.

Fifty-six CSXT Baltimore Division locomotives were equipped with APUs, Engine Run Managers (ERM) and communications equipment to permit GPS tracking and data collection from the locomotives. Throughout the report there is mention of the percent time spent in the State of Maryland. The fifty-six locomotives spent most of their time inside the borders of Maryland and some spent all their time inside the state borders. Usually when a locomotive traveled beyond the Maryland State border it was into an adjoining state. They were divided into four groups according to assignment: - Power Unit/Switcher Mate units, Remote Control units, SD50 Pusher units and Other units. The primary data of interest were idle data plus the status of the locomotive – stationary or moving. Also collected were main engine off, idling or working.

Idle data were collected by county location, by locomotive status (stationary or moving) and type of idle (Idle 1, main engine idling, APU off; Idle 2, main engine off, APU on; Idle 3, main engine off, APU off; Idle 4, main engine idle, APU on).

Desirable main engine idle states are main engine off and APU off or main engine off and APU on. Measuring the time the main engine spends in these desirable states versus the total time it could spend in an engine idling state allows the calculation of Percent Idle Management Effectiveness (%IME). IME is the result of the operation of the APU plus the implementation of CSXT's Warm Weather Shutdown Policy. It is difficult to separate the two. The units demonstrated an IME of 64% at stationary idle for the test period.

The data collected during calendar year 2004 demonstrated that 707,600 gallons of fuel were saved and 285 tons of $NO_X$ were not emitted as a result of idle management in stationary idle, which translates to 12,636 gallons and 5.1 tons of NOx per unit respectively.

The noise reduction capabilities of the APU demonstrated that at 150 feet from the locomotive the loaded APU with the main engine shut down generated noise that was only marginally above ambient noise level.

# 2. Introduction

## 2.1. Project Background

In response to the United States Department of Energy's (DOE) solicitation DE-PS36-0 10900 10, issued under its Initiative on Cooperative Programs with States for Research, Development, and Demonstration, the Maryland Energy Administration (MEA), in partnership with CSX Transportation, Inc. (CSXT), submitted a proposal to DOE to support the demonstration of Auxiliary Power Unit (APU) technology developed and patented by CSXT.

MEA is the Maryland State Government's lead agency for promoting new energy efficient transportation technologies that decrease the nation's dependence on imported oil. Acting under the authority of Sections 9-2002 and 9-2003 of the State Government Article, MEA is authorized to provide technical and financial assistance to public and private entities to accomplish this mission and to solicit funding to support energy technologies.

CSXT is the largest rail network in the eastern United States and is the core business unit of CSX Corporation. CSXT provides rail freight transportation over a network of more than 21,000 route miles in 23 states, the District of Columbia and two provinces in Canada. CSXT headquarters are in Jacksonville, Florida.

As CSXT's APU technology is expected to significantly decrease railroad locomotive idle diesel fuel use and $NO_X$ emission, DOE approved the proposal and agreed to provide funding to MEA and CSXT to assist in funding the demonstration project in Maryland. CSXT provided all additional funding for the project as a cost share. No State funds were provided for the Project. The Federal funds were provided to MEA and CSXT pursuant to DOE Cooperative Agreement DE-FC36-02G0 12022. MEA was designated the Recipient of the award and CSXT was designated the principal beneficiary of the funding. The Cooperative Agreement required CSXT to purchase and install equipment as specified in the award. MEA was required to oversee the project, disburse funds, and be responsible for meeting all DOE and Maryland reporting requirements.

## 2.2. Project Purpose

The project purpose is to demonstrate the idle fuel saving, Nitrous Oxide ($NO_X$), emissions reduction capabilities and noise reduction capabilities of the APU.

- Reduces locomotive idle fuel consumption
- Reduces locomotive idle $NO_X$ emission rates
- Reduces idling locomotive noise emission

## 2.3. Structure of the Demonstration Project

### 2.3.1. Tasks

**2.3.1.1.** Develop the demonstration project strategy.

**2.3.1.2.** Select 56 appropriate locomotives for the demonstration.

**2.3.1.3.** The locomotives selected are representative of the locomotive duty cycles found in Maryland both in service and in quantities.

**2.3.1.4.** Recognize that locomotives may be assigned to the Baltimore Division but their assignments do not confine them to the State of Maryland borders. (Every effort was made to keep the selected locomotives within the state borders.)

**2.3.1.5.** Equip 56 locomotives with APUs and communication equipment.

**2.3.1.6.** Monitor, collect and categorize idle data and location data from each of the project locomotives.

**2.3.1.7.** Monitor continuously each project locomotive to ensure it, its APU and its communication equipment are operating correctly.

### 2.3.2. Participants, Roles and Responsibilities

**2.3.2.1. The State of Maryland Energy Administration**[1] – MEA's role was to oversee the project, disburse funds and be responsible for meeting all Department of Energy (DOE) and Maryland reporting requirements. In addition, MEA, through the Maryland Department of the Environment (MDE), conducted noise measurements using a CSXT APU equipped diesel locomotive.

**2.3.2.2. CSX Transportation, Inc.**[2] – CSXT's role was to retrofit 56 CSXT locomotives assigned to the CSXT Baltimore Division with APU technology and communications equipment to demonstrate the APU's fuel savings and $NO_X$ emission reduction potential. CSXT's role also was to assess the potential of the APU to reduce locomotive main engine idling times across a range of locomotive engine classes and duty cycles predominantly used within the State of Maryland.

[1] Maryland Energy Administration, 1623 Forest Drive, Suite 300, Annapolis, MD 21403
[2] CSX Transportation, Inc., 500 Water Street, Jacksonville, FL 32202

#### 2.3.2.3. Suppliers

The two principal suppliers are EcoTrans Technologies[3], the supplier of the APU equipment and Wabtec Railway Electronics[4], the supplier of the Engine Run Manager (ERM) and the communication equipment.

### 2.3.3. Planned Schedule of the Demonstration Project

The project covers the period of April 1, 2003 through March 31, 2005. The data used were collected during calendar year 2004.

## 3. Description of the Technology and Application

### 3.1. Locomotive Engine Classes

The following Table 1 lists the locomotive unit numbers, and classifications, selected for the project and provides a brief description of each. The Electro-Motive Division[5] of General Motors Corporation (EMD) is the manufacturer of each selected locomotive. EMD is the predominant manufacturer of the locomotives assigned to the CSXT Baltimore Division.

*Table 1 - List of 56 Project Locomotives*

| UNIT NUMBER | CLASS | HORSE-POWER | ENGINE | RPM | UNIT NUMBER | CLASS | HORSE-POWER | ENGINE | RPM | UNIT NUMBER | CLASS | HORSE-POWER | ENGINE | RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2431 | SD40-2 | 3000 | 16-645-E3 | 900 | 6012 | GP40-2 | 3000 | 16-645-E3 | 900 | 6485 | GP40-2 | 3000 | 16-645-E3 | 900 |
| 2432 | SD40-2 | 3000 | 16-645-E3 | 900 | 6033 | GP40-2 | 3000 | 16-645-E3 | 900 | 6901 | GP40-2 | 3000 | 16-645-E3 | 900 |
| 2433 | SD40-2 | 3000 | 16-645-E3 | 900 | 6056 | GP40-2 | 3000 | 16-645-E3 | 900 | 6903 | GP40-2 | 3000 | 16-645-E3 | 900 |
| 2540 | GP38-2 | 2000 | 16-645E | 900 | 6076 | GP40-2 | 3000 | 16-645-E3 | 900 | 6927 | GP40-2 | 3000 | 16-645-E3 | 900 |
| 2578 | GP38-2 | 2000 | 16-645E | 900 | 6114 | GP40-2 | 3000 | 16-645-E3 | 900 | 6931 | GP40-2 | 3000 | 16-645-E3 | 900 |
| 2627 | GP38-2 | 2000 | 16-645E | 900 | 6130 | GP40-2 | 3000 | 16-645-E3 | 900 | 8261 | SD40-2 | 3000 | 16-645-E3 | 900 |
| 2641 | GP38-2 | 2000 | 16-645E | 900 | 6133 | GP40-2 | 3000 | 16-645-E3 | 900 | 8502 | SD50 | 3500 | 16-645F3B | 930 |
| 2648 | GP38-2 | 2000 | 16-645E | 900 | 6142 | GP40-2 | 3000 | 16-645-E3 | 900 | 8506 | SD50 | 3500 | 16-645F3B | 930 |
| 2677 | GP38-2 | 2000 | 16-645E | 900 | 6341 | GP40-2 | 3000 | 16-645-E3 | 900 | 8507 | SD50 | 3500 | 16-645F3B | 930 |
| 2678 | GP38-2 | 2000 | 16-645E | 900 | 6354 | GP40-2 | 3000 | 16-645-E3 | 900 | 8518 | SD50 | 3500 | 16-645F3B | 930 |
| 2680 | GP38-2 | 2000 | 16-645E | 900 | 6397 | GP40-2 | 3000 | 16-645-E3 | 900 | 8520 | SD50 | 3500 | 16-645F3B | 930 |
| 2684 | GP38-2 | 2000 | 16-645E | 900 | 6406 | GP40-2 | 3000 | 16-645-E3 | 900 | 8525 | SD50 | 3500 | 16-645F3B | 930 |
| 2686 | GP38-2 | 2000 | 16-645E | 900 | 6425 | GP40-2 | 3000 | 16-645-E3 | 900 | 8526 | SD50 | 3500 | 16-645F3B | 930 |
| 2774 | GP38-2 | 2000 | 16-645E | 900 | 6430 | GP40-2 | 3000 | 16-645-E3 | 900 | 8527 | SD50 | 3500 | 16-645F3B | 930 |
| 2777 | GP38-2 | 2000 | 16-645E | 900 | 6437 | GP40-2 | 3000 | 16-645-E3 | 900 | 8528 | SD50 | 3500 | 16-645F3B | 930 |
| 2797 | GP38-2 | 2000 | 16-645-E | 900 | 6454 | GP40-2 | 3000 | 16-645-E3 | 900 | 8535 | SD50 | 3500 | 16-645F3B | 930 |
| 6000 | GP40-2 | 3000 | 16-645-E3 | 900 | 6459 | GP40-2 | 3000 | 16-645-E3 | 900 | 8554 | SD50 | 3500 | 16-645F3B | 930 |
| 6004 | GP40-2 | 3000 | 16-645-E3 | 900 | 6479 | GP40-2 | 3000 | 16-645-E3 | 900 | 8607 | SD50 | 3500 | 16-645F3B | 930 |
| 6010 | GP40-2 | 3000 | 16-645-E3 | 900 | 6482 | GP40-2 | 3000 | 16-645-E3 | 900 | | | | | |

[3] EcoTrans Technologies, 1420 Crumlin Road North, London, Ontario, Canada N5V 1S1
[4] Wabtec Railway Electronics, 21200 Dorsey Mill Road, Germantown, MD 20876
[5] Elecro-Motive Division of General Motors, 9301 W 55th Street, LaGrange, IL 60525

**3.2. Operational Characteristics:** The 56 locomotives are all older locomotives and, for the purpose of the project, are separated into four major locomotive categories – (1) Power Unit/Switcher Mate locomotives, (2) Remote Control locomotives (RCL), (3) Pusher locomotives and (4) Other locomotives.

**3.2.1. Power Unit/Switcher Mate Locomotives** – These thirteen locomotives consist of two locomotive platforms semi-permanently connected together. The lead platform, the Power Unit, is a complete conventional GP40-2 locomotive and, in the project, is the referred to locomotive in all discussion concerning the Power Unit/Switcher Mate combination. The trailing platform, the Switcher Mate, is usually a numbered locomotive minus a main engine and generator and ballasted to compensate for the missing equipment. The Switcher Mate platform is equipped with two truck assemblies complete with traction motors and the controls necessary to derive electrical power from the leading Power Unit. This combination allows the attainment of the very low speed tractive effort of two 4-axle locomotives using only one prime mover.

Power Unit/Switcher Mate combinations are normally used in switching and hump yards where their high tractive effort at low speed and economy are well utilized. They will also be used to pull local freight trains servicing various industrial sites where speed is less important than economy and tractive effort. Because of this, they can travel long distances from their assigned locations.

**3.2.2. Remote Control Locomotives (RCL)** – These seven locomotives are used exclusively in switching yard service and will travel out of their assigned yards only for maintenance. They consist of four SD40-2 and three GP40-2 locomotives. They are unique because the operator will normally operate them from the ground rather than from the locomotive cab. The operator wears a remote control belt from which he controls the movement of the RCL locomotive thereby allowing him to perform ground activities such as switching, coupling and uncoupling activities in addition to operating the locomotive.

For safety reasons, because of the nature of RCL service, it is necessary that the automatic shutdown feature of the Engine Run Manager (ERM) be disabled when these locomotives are in “active” RCL service. This means that an “active” RCL controlled locomotive will not automatically shutdown when it has idled beyond a certain predetermined period. However, when not in “active” RCL mode, it will shutdown in the same manner as other APU equipped locomotives (described in section 3.5 below).

**3.2.3. Pusher (SD50) Locomotives** – Twelve of the project locomotives are SD50 locomotives and are often used (but not exclusively used) in “Pusher” service. Pushers are assigned to the bottom of a significant grade that would normally cause a freight train that is deliberately underpowered for

the grade to stall as it travels up the grade. The pusher will couple to the rear end of the train and its tractive effort, in addition to the tractive effort of the lead units, will move the train over the grade without stalling. This allows CSXT to power its trains in the most efficient manner possible. This type of service can require long periods of idle waiting for the next train and a standby crew to operate the pusher when its assistance is needed.

The project SD50 locomotives are sometimes assigned to other freight trains when power is short and thus can travel significant distances. Also, these SD50 units can be assigned to coal trains because of their high tractive effort and higher horsepower.

**3.2.4. "Other" Locomotives** – These twenty-four locomotives are the ones that do not fit into the previous three categories. They consist of thirteen GP38-2 and eleven GP40-2 locomotives used for medium haul freight primarily in the Baltimore Division. They will travel within the Maryland State border and beyond servicing industrial sites and pulling freight between CSXT rail yards. They generally will stay within Maryland or the borders of a surrounding state and tend to be used on lower priority freight trains. They can travel beyond this local service when power is tight and they are needed to pull a long haul freight train. They will normally not see the high-speed long haul priority freight service of the newer locomotives and will thus spend time idling on sidings waiting for a higher priority freight train to pass.

Total locomotive power level is maintained within the Baltimore Division in accordance with the forecasted business needs. As locomotives travel out of the Division others will travel into the Division thereby maintaining a fairly consistent inventory of locomotive power in the Division. Most locomotives working in and out of the Baltimore Division will be equipped with APU equipment.

## 3.3. Description of Maryland and National Inventories of Locomotives

### 3.3.1. National Locomotives Owned by CSX Transportation, Inc.

*Table 2 – CSXT Locomotive Ownership (12/01/04)*

| | QUANTITY | DESCRIPTION |
|---|---|---|
| | 264 | Switcher (EMD) |
| | 182 | 4 Axle (GE) |
| | 819 | 4 Axle (EMD) |
| | 1,325 | 6 Axle (GE) |
| | 929 | 6 Axle (EMD) |
| | 189 | Switcher Mate |
| Totals | 1,507 | GE locomotives |
| | 2,012 | EMD locomotives |

**3.3.2. Locomotives in the Baltimore Division -** (The following varies day to day in accordance with business needs.) Normally, all locomotives assigned to the Baltimore Division are EMD.

*Table 3 – Locomotives in the CSXT Baltimore Division*

| QUANTITY | CLASSIFICATION |
|---|---|
| 13 | SD80AC |
| 2 | MP15AC |
| 23 | Switcher Mate |
| 16 | GP38-2 |
| 60 | GP40-2 |
| 7 | SD40-2 |
| 27 | SD50 |

## 3.4. Prior Constraints to Idling Reduction

It was common railroad practice to allow unused locomotives to idle out of doors. Fuel was reasonably low in cost and locomotive engines do not use antifreeze coolant (to maximize heat transfer in a restricted space) with the result shutdown locomotives could suffer freeze damage in cold weather. Additionally, it is difficult to restart a cold diesel engine. Further, before the advent of newer technology water seals, because of contraction and expansion, large diesel engines could be expected to sustain water leaks when shut down and then restarted. Water leaking into the oil sump can cause severe bearing damage and water leaking onto the tops of pistons can cause bent connecting rods and severe engine damage at engine start.

To overcome these problems it was common railroad operating practice to allow locomotive main engines to idle continuously when locomotives were not being used.

As fuel became a more significant element of business cost, railroads developed a warm weather shutdown policy. This was assisted by the adoption of advanced water seal technology that reduced the likelihood of engine expansion/contraction water leaks.

Shutdown policies typically required crews to shutdown their locomotives if it was likely the locomotive would idle for some established minimum time and the ambient temperature exceeded some established minimum temperature.

## 3.5. Auxiliary Power Unit (APU), Engine Run Manager (ERM) and Communications (CommLink and Satellite) Description

### 3.5.1. CSXT Operating Practice to Save Fuel And Reduce Emissions With an APU

- Apply to each locomotive a small co-generator called an Auxiliary Power Unit (APU) and an Engine Run Manager (ERM).
- At temperatures above 35°F CSXT air brake and train handling rules require unattended locomotive engines to be manually shut down if they could idle for a period longer than 15 minutes. The APU/ERM will cause the main engine to shut down after 30 minutes of idling if the engine is not manually shut down. The APU will automatically self-start and stop as needed to ensure the locomotive battery is charged and systems are kept warm for easy main engine restart.
- Below 35°F, an unattended locomotive engine is automatically shut down by the APU/ERM system after 30 minutes of idling. Then, as needed, the APU automatically starts and stops itself to prevent locomotive freeze damage and keeps systems warm and charged to allow easy restart of the main engine when it's needed again.

**Description of the Auxiliary Power Unit (APU) and Engine Run Manager (ERM)**

- The APU is an EcoTrans Technologies supplied 22 BHP Kubota (V2003-T-EBG-SAE-2) 4-cylinder turbocharged diesel engine powered co-generator set that produces 16 kW, 240V, 60Hz single phase electrical power at 1800-RPM. It features waste heat recovery, electric immersion heaters that maintain locomotive oil and water temperatures and, (on CSXT) through the Engine Run Manager (ERM), auto shutdown of the main engine in idle. The Kubota engine has been certified to meet EPA emissions requirements.

**Also the APU features:**

- APU auto-starter controls
- Temperature controllers to regulate main engine coolant temperature
- Low fuel consumption and low emissions
- Visible/audible alarm that accommodates a wireless interface
- Battery charger that maintains the locomotive 74 VDC system
- 110/220 VAC, 60 Hz single phase electrical power

**Engine Run Manager (ERM)**

- The Wabtec Railway Electronics supplied ERM monitors locomotive water temperature, battery voltage and throttle position and automatically shuts down the main engine during appropriate idle periods. *(These functions duplicate the capabilities of a "stand alone" APU but CSXT made the decision to use the ERM for these functions because of the following additional capabilities of the ERM)*
- Integrated recording function that provides fuel report statistics, locomotive statistics, events and alarm logs.
- Battery load shedding function that, following a locomotive/APU auto shutdown, automatically turns off the locomotive lighting and headlights after a preset timeout period elapses.
- Headlight reset switch that allows the temporary restoring of the locomotive's lighting for a period of two minutes during main engine shutdown.
- Output to allow connection to a laptop to collect the stored data and to a communication system (see CommLink) that allows data transmission via satellite and 802.11b radio.

**Additional Equipment List per Locomotive (**Supplied by Wabtec Railway Electronics):

The following equipment was applied only to the fifty-six project locomotives to allow the remote collection of the data necessary for the project.

The discussion in the balance of this section of the report pertains only to the fifty-six project locomotives.

- 74V-13V DC-DC Converter
- Satellite Communications Terminal
- Cables
- CommLink Unit
- 802.11b Antenna
- Software

**ERM to Satellite Communication System Description**:

The ERM satellite communications system provides APU and locomotive health data, fuel data and position reports to a CSXT back-office software application, where relevant information is extracted and dispersed to CSXT users.

The ERM generates a satellite message to the CSXT back office when any of the following occur:

- The APU status has changed from “on” to “off” or from “off” to “on”.
- The main engine status has changed from “on” (‘engine on and isolated’ or ‘engine on and run’) to “off” (‘engine off due to manual shutdown’ or ‘engine off due to auto shutdown’ or ‘engine start fault’) or the main engine status has changed from “off” to “on”.
- The ERM software has evaluated all of the following locomotive parameters at 15-minute intervals since the last message transmission and determined that at least one of them has changed beyond its threshold level. This will initiate a 15 minute interval message.
    - The locomotive has moved more than 1,000 feet since the last message transmission.
    - A new locomotive health condition has occurred since the last message transmission.
    - A new APU fault has occurred since the last message transmission.
    - Fuel level has changed by 100 gallons since the last sent message (software includes filtering and hysteresis logic to minimize temperature and sloshing effects).

  (However, changes to the equipment status, locomotive orientation, locomotive speed, locomotive throttle, or the clearing of any of the health conditions or APU problem conditions are not triggers that will cause a 15-minute interval message to be sent.)
- 4 hours have elapsed since the last transmission.
- A request for a data message has been received via satellite from the back-office. This initiates the data to be collected and a message immediately generated as a response.
- The ERM has been powered up for 5 minutes after having been powered down for a significant period. This period is defined so that ERM messages due to engine cranking or breakers being manually reset will not occur.
- If any of the above conditions occurred while the satellite terminal was unable to communicate for any reason, once communications again become available a message is immediately sent with current information.

All satellite messages initiated by the locomotive ERM software receive a short return “Acknowledge” message from the ground equipment indicating that the message has been successfully received. Should an acknowledgement not be received within a 1-minute timeframe, the ERM will resend the message up to seven additional times at one-minute

intervals. The most probable cause of a locomotive message not being acknowledged, and a subsequent retry being successful, is that a moving locomotive was temporarily blocked by a bridge, tree, building etc. All retries of a message contain the original message sequence number. In the event that neither a message nor its seven retries are acknowledged, the ERM will give up and try to send a new message 15 minutes later. In this case, the sequence number of the new message is advanced, so that the fact there was a completely missed communication will be evident. The most probable cause of a completely missed communication is when a locomotive is stopped behind a structure that is blocking its southern view of the satellite.

All generated locomotive data messages contain the following mandatory data fields:

1. Locomotive ID
2. A code that correlates to the current software version of the ERM
3. Time in minutes past the current hour that the message was transmitted
4. Go/No-Go Status of interfaces to GPS, Satellite, CommLink, Fuel System and ERM
5. Message type:
    - 15 minute message
    - 4 hour message
    - Something changed message
    - ERM Power-Up message
    - Response from back office poll
6. APU status
    - On
    - Off
7. Sequence bits
8. Engine Status
    - Off due to manual shutdown by crew or automatic shutdown by ERM
    - On and isolated
    - On and run and loading
    - Engine start fault
    - On and run and idling

The following additional supplemental data fields are appended to the mandatory fields when the situation is warranted:

- GPS Position, sent only when locomotive has moved more than 1,000 feet since the last message, or when a poll has been received from the back office, or when the ERM has just powered up. GPS position may or may not be sent as part of a "something-changed" message or a "15-minute" message dependent on whether the locomotive has moved 1,000 feet since the last acknowledged message. GPS position will not be sent due to changes in orientation, speed or throttle position. GPS position consists of:
  - Latitude
  - Longitude
  - Orientation
  - Speed
- Fuel Level Data
- Excessive loss event
- APU Problem Support Data
- Health Monitor Alarm data

**CommLink Backup for Satellite Messages**

CommLink, a Wabtec Railway Electronics communication system, is applied to each of the 56 project locomotives. It enables the wireless downloading of the Engine Run Manager via IEEE 802.11b 2.4GHz spread spectrum radio to Access points located in three locations within the Baltimore Division. Thus, a back-up source of data is available for those situations where satellite communications failed. The CSXT back office software merges the satellite data and spread spectrum data to fill data holes as needed.

**Other Backup**

50 of the project locomotives are equipped with a GE[6] supplied PinPoint locomotive satellite communication system. The GPS portion of this system serves to backup missing GPS data from the Wabtec systems and its merge with the regular data stream is processed by the CSXT back office software system.

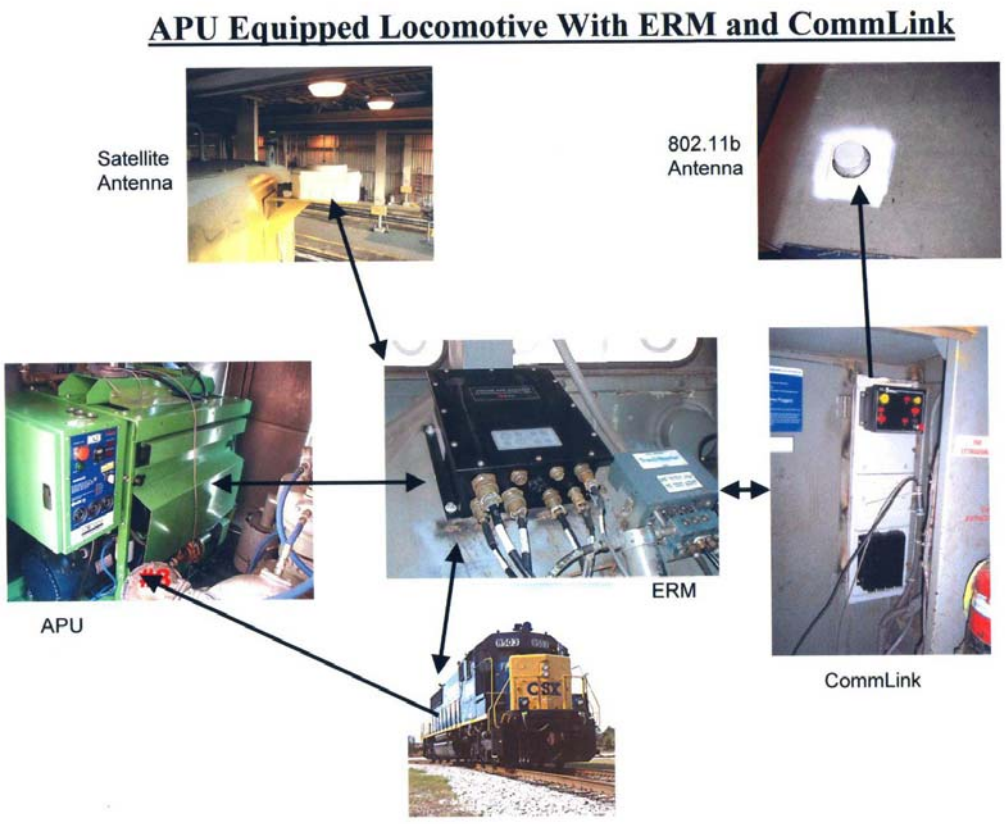
A final backup is provided by the manual downloads of the ERM performed on a three month basis by the CSXT maintenance facilities. This data is collected by laptop computer and fed to the CSXT back office where it too is merged into the data stream to fill data holes.

[6] GE Transportation Systems, Global Signaling, LLC, Grain Valley, MO

### 3.5.2. Configuration/Installation Within Locomotives

The following Diagram 1 illustrates the location of the APU and the communications equipment within a typical CSXT installation.

*Diagram 1 – APU Equipped Locomotive With ERM and CommLink*




The arrows indicate the flow of information between the various pieces of equipment. The ERM is the heart of the data collection and dissemination system gathering data from the locomotive, the APU, the satellite terminal and the CommLink panel and sending information via the Satellite terminal and the CommLink/802.11b system.

Not shown on the diagram is the collection of data from the ERM by laptop that is done every three months and in turn sent by land wire to CSXT. This function is performed on all CSXT ERM/APU equipped locomotives.

# 4. Results of Testing Program

## 4.1. Emissions and Fuel Consumption

### 4.1.1. $NO_X$ Emissions Assumptions

All emissions discussed are Nitrous Oxide ($NO_X$) at main engine idle and include the emissions of the APU engine. Emissions of $NO_X$ are displayed based upon the following two scenarios.

I. Scenario 1 - None of the locomotive main engines have been retrofitted with emissions kits certified to meet EPA[7] Tier 0 requirements in which case the idle speed emissions of $NO_X$ are at the levels given in the January, 1991 Locomotive Emission Study prepared by Booz·Allen & Hamilton, Inc. for the California Air Resources Board[8].

Only 7 of the 56 locomotives have been equipped with emissions kits certified to meet EPA Tier 0 standards and these were completed during the project. Thus this scenario, shown in Table 4, best represents the levels of $NO_X$ being emitted today for the 56 locomotives at engine idle.

*Table 4 - $NO_X$ Emissions at Idle by Locomotive Model and Engine Type*

| LOCOMOTIVE | ENGINE | MAIN ENGINE $NO_X$ GRAMS PER HOUR @ IDLE |
|---|---|---|
| GP38-2 | 16-645E | 1,247 |
| GP40-2<br>SD40-2 | 16-645E3 | 1,635 |
| SD50 | 16-645F3B | 999 |

II. Scenario 2 - All of the locomotive main engines have been retrofitted with emissions kits certified to meet EPA Tier 0 standards in which case the idle speed emissions of $NO_X$ are at the levels determined in CSXT's work with Southwest Research Institute[9] (SwRI) and certified to meet EPA Tier 0 standards shown in below Table 5.

Although this is not the case today, as time passes, more of these locomotives will be retrofitted with the certified emissions kits and this scenario will represent the future state.

[7] Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460

[8] Locomotive Emission Study prepared for the California Air Resources Board January, 1991 by Booze·Allen & Hamilton, 8283 Greensboro Drive, McLean, VA 22102 and 101 Park Avenue, New York, NY 10017

[9] Southwest Research Institute, SwRI, 6220 Culebra Road, P.O. Drawer 28510, San Antonio, TX 78228

*Table 5 - $NO_X$ Emissions at Idle by Locomotive Model and Certified Engine Type*

| LOCOMOTIVE | ENGINE | CERTIFIED MAIN ENGINE $NO_X$ GRAMS PER HOUR @ IDLE |
|---|---|---|
| GP38-2 | 16-645E | 743 |
| GP40-2<br>SD40-2 | 16-645E3 | 605 |
| GP40-2<br>SD40-2 | 16-645E3B | 634 |
| SD40-2 | 16-645E3C | 673 |
| GP40-2 | 16-645E3M | 827 |
| SD50 | 16-645F3B | 639 |

### 4.1.2. Fuel Consumption Assumptions

A main engine's fuel consumption, pre-certification and at idle speed unloaded, is four U.S. gallons per hour and is the rate used in this project for uncertified engines.

The certified main engine idle fuel consumption is as displayed in the following Table 6. These are the rates used in the project for the Tier 0 certified engines.

*Table 6 - Fuel Consumption at Idle by Locomotive Model and Certified Engine Type*

| LOCOMOTIVE | ENGINE | CERTIFIED ME IDLE FUEL CONSUMPTION RATE (GAL/HR) |
|---|---|---|
| GP38-2 | 16-645E | 4.00 |
| GP40-2<br>SD40-2 | 16-645E3 | 3.21 |
| GP40-2<br>SD40-2 | 16-645E3B | 3.09 |
| SD40-2 | 16-645E3C | 3.43 |
| GP40-2 | 16-645E3M | 3.77 |
| SD50 | 16-645F3B | 2.91 |

The fuel consumption and $NO_X$ emission levels of the APU are also factored into the project results. The fuel consumption of an APU at six KW (average electrical load) is 0.686 gallons per hour and the $NO_X$ emission level is 53.3 grams per hour, also at six (6) KW.

### 4.1.3. Idle Categories

For the project, it was determined appropriate to divide locomotive idling into the following four idle categories:

Idle 1 – The main engine is idling and the APU is off.
Idle 2 – The main engine is off and the APU is on
Idle 3 * – The main engine is off and the APU is off
Idle 4 ** – The main engine is idling and the APU is on.

* Idle 3 will occur for two reasons:

One, the locomotive has been shut down in compliance with CSXT's warm weather shutdown policy by the pressing of the EFCO (Emergency Fuel Cutoff) button. This causes the APU to stay off until it is reset by the manual restart of the main engine.

Two, the ERM (Engine Run Manager) has shutdown the main engine after it has idled for 30 minutes and conditions are not such to cause the APU to start and run.

** Idle 4 usually occurs because the APU is designed to self start every 24 hours if not required for other reasons and to run for 15 minutes loaded. This is an exercise feature of the APU and can occur even when the main engine is running.

Other causes for "Idle 4" time are for specific maintenance issues. If the APU "Mode Selector Switch" is placed in the "Continuous Run" position, the APU will run continuously regardless of whether the main engine is running or not.

The above reasons will also explain why there are hours recorded for the main engine working and the APU running.

### 4.1.4. CSXT Shutdown Policy

CSXT Air Brake and Train Handling Rule 5401, "Conserving Fuel", instructs operating crews to use fuel conservation methods at all times, as follows:

- The locomotive will not be used for fifteen minutes and when current and expected temperature during the shutdown period is above 35°F.
- In complying with this rule, perform a manual shutdown on all locomotives excluding those equipped with an automatic engine start and stop (AESS) system. AESS equipped locomotives need only be isolated for compliance.
- This instruction applies to all assignments including yard power tying up for lunch and at the completion of their shift.

1. If necessary to do so, you may allow one diesel engine to idle in order to maintain an air supply to the train.

2. When a train or locomotive(s) are stopped, the engineer must center the reverser handle to activate the low idle feature and allow the auxiliary power unit (APU) or automatic engine start stop (AESS) system to operate on equipped units.
3. Avoid having more locomotives on-line (running) than those required to maintain the maximum speed permitted.
4. When handling light locomotive movements, use only the lead locomotive for power. (Note: helper engines must be shut down or isolated at the first stop, after determining power is not needed.)
5. When advised by the train dispatcher that there will be a delay of 30 minutes or more for a line-of-road train, all locomotives except the controlling locomotive will be shut down or isolated. Locomotives will be restarted prior to the end of the delay to ensure the train is ready to proceed when authorized. (5 minutes per locomotive will be used as a guideline for calculating the time needed to restart the locomotives in the consist).
6. When a transfer train, work train, yard assignment, or pusher locomotive will be delayed in excess of 30 minutes, all locomotives will be shut down, or isolated. Train and locomotives must be properly secured.
7. After yarding a train, all working locomotives except the controlling unit will be shut down, or isolated. Upon arrival at a locomotive servicing track where mechanical department personnel cannot take immediate charge of the locomotives, all locomotives will be shut down, or isolated and properly secured.

## 4.2. Noise

### 4.2.1. CSXT Conducted APU Sound Level Testing (August 24, 2001)

CSXT conducted ambient sound level tests August 24, 2001 at 100 and 150-foot distances around APU equipped SD40-2 unit CSXT8202. Testing was conducted to determine the sound levels in dBA around the locomotive at idle, high idle (notch 3), APU running unloaded, APU running loaded and locomotive completely shut down. Sound levels were recorded at 100 and 150-foot distances forward (from the short hood), rearward and to both sides from the center of the locomotive. They are summarized in Table 7 below. The locomotive car body doors were shut.

*Table 7 - CSXT Sound Measurements*

| DISTANCE | LOCOMOTIVE SHUT DOWN (dBA) | IDLE (dBA) | HIGH IDLE NOTCH 3 (dBA) | APU UNLOADED (dBA) | APU LOADED (dBA) |
|---|---|---|---|---|---|
| 100 Ft. Forward | 42.0-45.0 / 44.0 | 55.5 - 56.5 | 65.0-66.0 / 65.8 | 47.0-48.5 / 48.0* | 49.5-51.5 / 51.0 |
| 150 Ft. Forward | 42.0-45.0 / 44.0 | 53.5 - 54.5 | 63.0-64.5 / 64.0 | 49.0-50.5 / | 45.5-47.0 / 46.8 |
| 100 Ft. Crew Side | 40.0-55.0 / 48.0*** | 64.0 - 66.0 | 71.0-73.0 / 72.5 | 54.0-56.0 / 55.0** | 55.0-57.0 / 56.0 |
| 150 Ft. Crew Side | 41.0-50.0 / 48.0 | 59.0 - 61.0 | 67.0-68.5 / 68.0 | 51.5-53.5 / 53.0 | 51.0-55.0 / 54.0 |
| 100 Ft. Rearward | 40.0-45.0 / 44.0 | 57.0 - 58.5 | 67.0-68.0 / 67.5 | 47.5-49.0 / 48.5 | 49.5-51.0 / 50.5 |
| 150 Ft. Rearward | 38.0-44.0 / 42.0 | 54.0 - 55.0 | 64.0-65.0 / 64.5 | 44.5-45.5 / 45.0 | 47.0-48.5 / 48.0 |
| 100 Ft. Engineer Side | 42.0-46.0 / 45.0 | 62.0 - 63.0 | 72.0-73.0 / 72.5 | 49.5-51.0 / 50.5 | 50.5-52.0 / 51.8 |
| 150 Ft. Engineer Side | 42.0-45.0 / 44.0 | 57.5 - 58.5 | 67.5-68.5 / 68.0 | 46.0-47.5 / 47.0 | 48.0-49.0 / 48.5 |

* APU Unloaded - Can barely hear APU running. Distant background noises obvious on meter in fast response (Higher levels at 150 feet caused by distant train passing.)

** APU Unloaded - Typically 54.0 to 56.0 dBA with spitter (Occasionally louder spits will peak at 60.0 dBA.)

*** Spitter valve causing large fluctuations (CSXT is changing to a valve that activates only at compressor loading and unloading. This will reduce this source of noise.)

The noise generated by the loaded APU is only slightly louder than ambient at 150 feet.

See Appendix 2 for the complete CSXT report

### 4.2.2. The Maryland Department of the Environment (MDE) Conducted APU Sound Level Testing December 2, 2003 as a Requirement of the Demonstration Project

The Conclusions section of the MDE report states:

- The noise level of the APU could not be ascertained in the relatively noisy confines of the rail yard.
- The APUs have a noise level of less than 61.3 dBA at a distance of 50 feet from the locomotive with the actual level estimated to be probably

less than 55 dBA. The Noise Specialist stated that he estimated the APU noise level to be approximately 45 dBA.

**The MDE Report:**

See Appendix 3

## 4.3. Basic Idling Time

### 4.3.1. Idling (Stationary and Moving)

Locomotive idling is usually thought of as a stationary activity. However, the demonstration project revealed that locomotives may also idle while moving. This is typically the result of unneeded units in a multi-unit consist being isolated and left to idle while one or two needed units in the consist move the consist and train.

The APU and Engine Run Manager will cause the idling moving locomotive(s) to shut down and yet be protected by the APU while shut down and moving.

As a result, the idle hours have been recorded in three manners:

1. Stationary Idling Hours
2. Moving Idling Hours
3. Total (Stationary and Moving) Idle Hours

The hours shown in below Table 8 are the hours recorded for the 56 project locomotives on a per unit basis and for all locations they traveled to including the State of Maryland. The hours shown are the total hours that the locomotive could have been idling, not the hours it actually was idling. The main engine may have been shut down for some of these hours.

*Table 8 - Per Unit Stationary and Moving Idle Hours – All Locations*

| ALL LOCATIONS | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stationary Idle Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Moving Idle Hours | 88.19 | 92.77 | 85.09 | 91.01 | 94.09 | 92.01 | 95.51 | 103.13 | 88.16 | 104.34 | 88.43 | 82.63 |
| Total Idle Hours | 513.92 | 504.43 | 512.94 | 512.80 | 526.99 | 523.43 | 578.07 | 580.97 | 545.67 | 591.33 | 554.62 | 562.95 |
| Moving Hours as a: | | | | | | | | | | | | |
| % Of Stationary Hours | 20.72% | 22.54% | 19.89% | 21.58% | 21.74% | 21.33% | 19.79% | 21.58% | 19.27% | 21.43% | 18.97% | 17.20% |
| % Of Total | 17.16% | 18.39% | 16.59% | 17.75% | 17.85% | 17.58% | 16.52% | 17.75% | 16.16% | 17.65% | 15.94% | 14.68% |

The moving idle hours are about 19 to 22 % of the stationary idle hours and 15 to 18 % of the total idle hours.

Similar results are seen in below Table 9 for the hours recorded while the units were inside the borders of the State of Maryland.

*Table 9 - Per Unit Stationary and Moving Idle Hours – Maryland Only*

| MARYLAND ONLY | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stationary Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Moving Idle Hours | 59.90 | 49.97 | 51.18 | 52.27 | 49.98 | 52.95 | 53.26 | 71.38 | 56.17 | 68.10 | 66.40 | 60.66 |
| Total Idle Hours | 342.78 | 285.23 | 313.69 | 294.49 | 296.76 | 317.94 | 337.60 | 410.49 | 375.35 | 391.06 | 428.60 | 427.15 |
| Moving Hours as a: | | | | | | | | | | | | |
| % Of Stationary Hours | 21.17% | 21.24% | 19.50% | 21.58% | 20.25% | 19.98% | 18.73% | 21.05% | 17.60% | 21.09% | 18.33% | 16.55% |
| % Of Total | 17.47% | 17.52% | 16.31% | 17.75% | 16.84% | 16.65% | 15.78% | 17.39% | 14.96% | 17.41% | 15.49% | 14.20% |

### 4.3.2. The Four Idle Categories

As previously presented in section 4.1.3, Idle Categories, locomotive idling is divided into the following four categories:

Idle 1 – The main engine is idling and the APU is off.
Idle 2 – The main engine is off and the APU is on.
Idle 3 – The main engine is off and the APU is off.
Idle 4 – The main engine is idling and the APU is on.

Traditionally locomotives have been allowed to idle continuously when they were not needed. (See – *3.4 Prior Constraints to Idling Reduction*.) Today, CSXT non-APU equipped locomotives are required to idle continuously when outside in below 35°F ambient temperatures. There are several CSXT locations where this threshold temperature has been set at 28°F.

The following Table 10 shows the four idle categories for all fifty-six project locomotives, on a per locomotive basis, within the borders of the State of Maryland. Idle 2 and Idle 3 are desirable idle categories while Idle 1 and Idle 4 are not.

*Table 10 - Maryland Idle Hours – All Applications*

| **ALL APPLICATIONS** | **IDLE HOURS PER LOCOMOTIVE** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MD Only, Stationary Idle** | **Jan-04** | **Feb-04** | **Mar-04** | **Apr-04** | **May-04** | **Jun-04** | **Jul-04** | **Aug-04** | **Sep-04** | **Oct-04** | **Nov-04** | **Dec-04** |
| Idle 1 - ME Idle; APU Off | 115.59 | 115.47 | 112.72 | 107.43 | 59.80 | 61.11 | 49.77 | 68.52 | 59.61 | 78.41 | 114.24 | 167.59 |
| Idle 2 - ME Off; APU On | 64.13 | 44.14 | 41.59 | 27.75 | 11.36 | 9.72 | 14.12 | 12.86 | 20.86 | 24.22 | 53.57 | 83.74 |
| Idle 3 - ME Off; APU Off | 74.55 | 60.69 | 99.89 | 103.18 | 173.20 | 191.81 | 218.42 | 255.50 | 235.25 | 215.34 | 186.68 | 94.77 |
| Idle 4 - ME Idle; APU On | 28.61 | 14.95 | 8.31 | 3.86 | 2.42 | 2.36 | 2.03 | 2.23 | 3.45 | 4.99 | 7.71 | 20.39 |
| Total Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |

The following four tables show the four categories of idling for each locomotive assignment, again per locomotive, in Maryland only and with the locomotive idling while stationary.

*Table 11 - Maryland Idle Hours – Power Units*

| POWER UNIT | IDLE HOURS PER LOCOMOTIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MD Only, Stationary Idle** | **Jan-04** | **Feb-04** | **Mar-04** | **Apr-04** | **May-04** | **Jun-04** | **Jul-04** | **Aug-04** | **Sep-04** | **Oct-04** | **Nov-04** | **Dec-04** |
| Idle 1 - Main Eng Idle; APU Off | 88.12 | 91.29 | 111.95 | 132.31 | 35.26 | 49.56 | 47.16 | 47.67 | 49.98 | 66.11 | 96.78 | 160.82 |
| Idle 2 - Main Eng Off; APU On | 55.31 | 52.02 | 32.58 | 46.96 | 20.04 | 11.38 | 42.69 | 10.73 | 21.98 | 18.87 | 61.01 | 50.77 |
| Idle 3 - Main Eng Off; APU Off | 19.03 | 26.57 | 38.43 | 74.63 | 88.08 | 105.32 | 145.55 | 206.18 | 188.18 | 167.67 | 128.95 | 46.48 |
| Idle 4 - Main Eng Idle; APU On | 16.43 | 10.97 | 13.32 | 2.28 | 1.89 | 0.69 | 1.69 | 4.00 | 2.07 | 3.75 | 11.35 | 11.68 |
| Total Hours | 178.89 | 180.85 | 196.29 | 256.18 | 145.27 | 166.94 | 237.10 | 268.58 | 262.21 | 256.39 | 298.09 | 269.74 |

*Table 12 - Maryland Idle Hours – Other Units*

| OTHER | IDLE HOURS PER LOCOMOTIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MD Only, Stationary Idle** | **Jan-04** | **Feb-04** | **Mar-04** | **Apr-04** | **May-04** | **Jun-04** | **Jul-04** | **Aug-04** | **Sep-04** | **Oct-04** | **Nov-04** | **Dec-04** |
| Idle 1 - Main Eng Idle; APU Off | 131.72 | 100.22 | 72.28 | 59.01 | 49.85 | 52.86 | 46.19 | 60.81 | 62.59 | 81.62 | 113.46 | 157.80 |
| Idle 2 - Main Eng Off; APU On | 58.98 | 23.35 | 23.95 | 10.55 | 5.46 | 2.06 | 3.96 | 6.71 | 17.32 | 23.03 | 43.37 | 80.77 |
| Idle 3 - Main Eng Off; APU Off | 95.53 | 38.15 | 79.84 | 71.02 | 159.60 | 194.95 | 200.51 | 254.05 | 263.69 | 198.89 | 184.14 | 93.89 |
| Idle 4 - Main Eng Idle; APU On | 17.76 | 10.29 | 3.91 | 3.58 | 1.67 | 0.75 | 0.72 | 0.85 | 1.62 | 2.35 | 4.73 | 18.08 |
| Total Hours | 303.98 | 172.02 | 179.98 | 144.16 | 216.58 | 250.63 | 251.39 | 322.43 | 345.22 | 305.89 | 345.70 | 350.54 |

*Table 13 - Maryland Idle Hours – RCL Units*

| REMOTE CONTROL LOCOMOTIVE (RCL) | IDLE HOURS PER LOCOMOTIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MD Only, Stationary Idle** | **Jan-04** | **Feb-04** | **Mar-04** | **Apr-04** | **May-04** | **Jun-04** | **Jul-04** | **Aug-04** | **Sep-04** | **Oct-04** | **Nov-04** | **Dec-04** |
| Idle 1 - Main Eng Idle; APU Off | 193.03 | 213.48 | 219.78 | 227.85 | 124.99 | 92.15 | 87.76 | 119.76 | 87.83 | 122.10 | 126.70 | 166.14 |
| Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 17.28 | 7.54 | 15.10 | 32.13 | 23.93 | 62.10 | 98.32 |
| Idle 3 - Main Eng Off; APU Off | 131.72 | 125.12 | 197.25 | 209.35 | 318.09 | 337.77 | 385.38 | 371.76 | 331.48 | 304.17 | 223.81 | 181.38 |
| Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 10.16 | 5.22 | 3.40 | 9.59 | 6.28 | 12.41 | 31.29 |
| Total Hours | 452.63 | 407.46 | 501.71 | 465.15 | 450.53 | 457.36 | 485.90 | 510.02 | 461.03 | 456.48 | 425.02 | 477.13 |

*Table 14 - Maryland Idle Hours – SD50 Units*

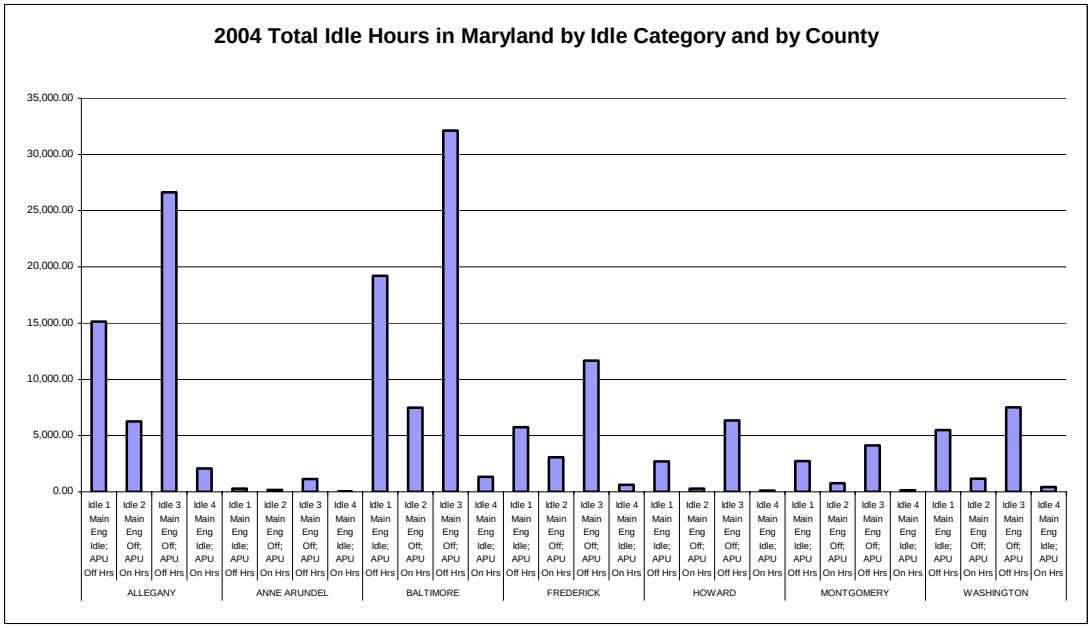
| SD50 | IDLE HOURS PER LOCOMOTIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MD Only, Stationary Idle** | **Jan-04** | **Feb-04** | **Mar-04** | **Apr-04** | **May-04** | **Jun-04** | **Jul-04** | **Aug-04** | **Sep-04** | **Oct-04** | **Nov-04** | **Dec-04** |
| Idle 1 - Main Eng Idle; APU Off | 58.70 | 102.45 | 99.46 | 90.26 | 55.62 | 71.02 | 32.41 | 70.69 | 44.79 | 54.91 | 127.06 | 192.34 |
| Idle 2 - Main Eng Off; APU On | 68.91 | 66.13 | 57.66 | 47.18 | 17.75 | 19.45 | 16.19 | 28.53 | 20.31 | 33.71 | 62.29 | 113.42 |
| Idle 3 - Main Eng Off; APU Off | 48.84 | 95.96 | 141.70 | 118.50 | 179.99 | 182.60 | 195.68 | 223.39 | 159.05 | 249.81 | 231.58 | 94.08 |
| Idle 4 - Main Eng Idle; APU On | 45.34 | 30.20 | 6.12 | 2.56 | 3.64 | 2.00 | 2.67 | 2.71 | 4.94 | 11.94 | 7.26 | 26.78 |
| Total Hours | 221.78 | 294.73 | 304.94 | 258.50 | 257.01 | 275.07 | 246.94 | 325.32 | 229.09 | 350.36 | 428.19 | 426.62 |

These tables are further discussed in Section 5, Analysis of Results.

### 4.3.3. Idle Hours by Idle Category and by Maryland County Location

The following Chart 1 shows the fifty-six project locomotives' stationary idle hours in Maryland by county and by idle category for 2004. Counties with very small quantities of idle hours are not included.

*Chart 1 – 2004 Total Idle Hours in Maryland by Idle Category and by County*




In each county, the Idle 3 category is predominant and the sum of Idles 2 and 3 exceeds the time in Idle 1. The Idle 1 time represents the opportunity still available for further idle savings.

Baltimore County, a prominent non-attainment area, shows a significant reduction in main engine idle per the bars representing Idle 2 and Idle 3.

## 4.4. Optimization Strategies

### 4.4.1. Description of Strategies Evaluated

At the start of the project, it was planned to divide the 56 locomotives into three smaller groups, each group having a different time programmed for idle shutdown. The first group would have shut down the main engine after ten minutes of continuous idle, the second after twenty minutes and the third group after thirty minutes.

This would have allowed the assessment of the advantages of shorter programmed shutdown periods.

The newness of the APU equipment to both operating and maintaining forces and the quantities of the equipment being installed on CSXT caused

the reassessment of introducing differing shutdown periods in the demonstration project. A single 30-minute shutdown period was used.

### 4.4.2. Crew Acceptance

Crews and Road foremen of Engines have been interviewed with the following comments.

- They like the concept of the APU and the fact that it saves fuel and reduces emissions.
- Valuable crew comments were received pertaining to training and utilization.

### 4.4.3. Mechanical Department (Maintenance) Acceptance

Mechanical personnel were interviewed and made the following comments.

- Similar to the operating crews, they like the concept of the APU.
- Valuable comments were received pertaining to training and utilization.
- The Mechanical Department is addressing several APU equipment issues.

## 5. Analysis of Results

### 5.1. Assessment of Idling Time Reduction

Idle Management is management directed to maximize idling locomotives into the desirable Idle 2 and Idle 3 categories and to minimize the Idle 1 and Idle 4 categories. By dividing the sum of Idle 2 and Idle 3 hours by the total hours of idle and expressing the result as a percent, we have a way to express the effectiveness of idle management called %IME (% Idle Management Effectiveness).

$$\%IME = [(Idle\ 2\ Hours + Idle\ 3\ Hours) \div Total\ Idle\ Hours]_{X}\ 100$$

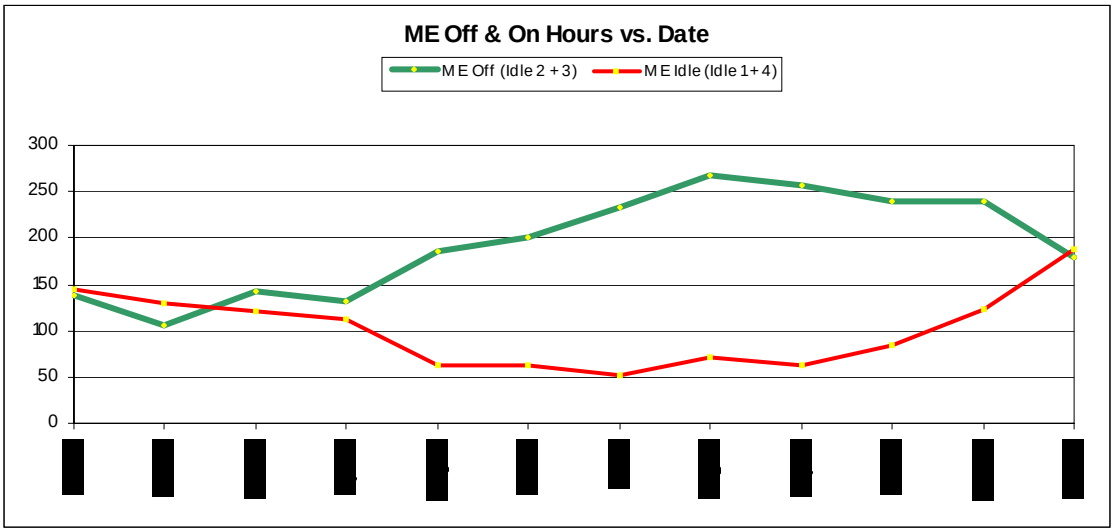
*Table 15 - % Idle Management Effectiveness for Stationary Locomotives in Maryland*

| | IDLE HOURS PER LOCOMOTIVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MD Only, Stationary Idle | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
| Idle 1 - ME Idle; APU Off | 115.59 | 115.47 | 112.72 | 107.43 | 59.80 | 61.11 | 49.77 | 68.52 | 59.61 | 78.41 | 114.24 | 167.59 |
| Idle 2 - ME Off; APU On | 64.13 | 44.14 | 41.59 | 27.75 | 11.36 | 9.72 | 14.12 | 12.86 | 20.86 | 24.22 | 53.57 | 83.74 |
| Idle 3 - ME Off; APU Off | 74.55 | 60.69 | 99.89 | 103.18 | 173.20 | 191.81 | 218.42 | 255.50 | 235.25 | 215.34 | 186.68 | 94.77 |
| Idle 4 - ME Idle; APU On | 28.61 | 14.95 | 8.31 | 3.86 | 2.42 | 2.36 | 2.03 | 2.23 | 3.45 | 4.99 | 7.71 | 20.39 |
| Total Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| % IME | 49.03% | 44.56% | 53.89% | 54.05% | 74.79% | 76.05% | 81.78% | 79.14% | 80.24% | 74.17% | 66.33% | 48.71% |

The %IME line of the above Table 15 is illustrative of what is happening with the fleet of 56 units within Maryland. In the cold months, December through April, the APU is not being fully utilized. The main engine Idle 1 hours are highest during

these months and drop off with the advent of warmer weather. The trend reverses as cold weather returns. Chart 2 below illustrates this.

*Chart 2 – Main Engine Off and On Hours versus Date*

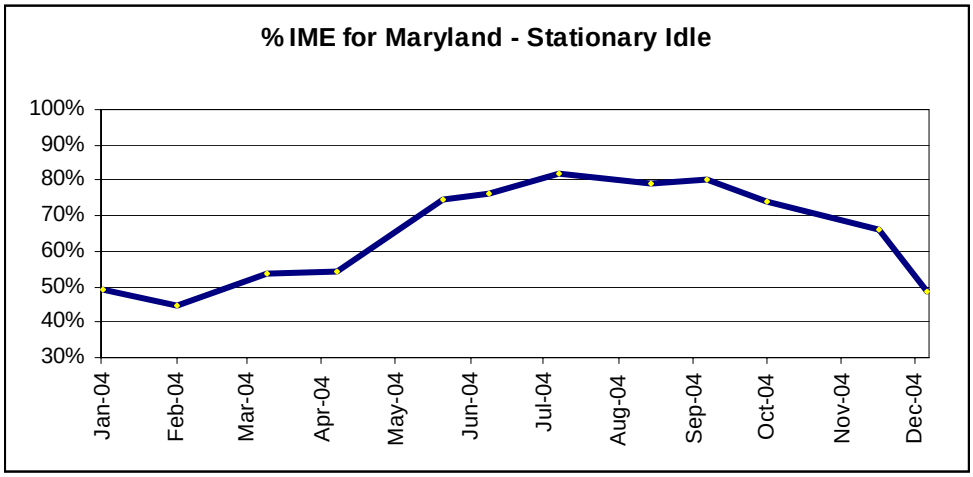



The CSXT warm weather shutdown policy is affecting the results. When ambient temperatures exceed 35°F the operator is required to shut down the locomotive instead of idling it. Stationary %IME approaches and exceeds 80% in July, August and September. It then reduces to about 50% in the colder weather.

Above Chart 2 shows that the main engine Idle 1 hours are higher in the colder months than the warmer months and the main engine off hours are higher in the warm weather than the cold weather.

Chart 3 below shows the same trend holds for the locomotives when just the Maryland statistics are studied.

*Chart 3 - %IME for Maryland – Stationary Idle*




The APU should be the leveler with the changes in temperature. The APU should allow the main engine to shutdown regardless of ambient temperature and the result should be reflected in a flatter %IME line.

It would be reasonable to expect the cold weather IME to be slightly lower than the warm weather IME because the ERM is set to shut down the main engine after thirty minutes of idle versus the almost immediate shutdown initiated by the warm weather shutdown policy.

### 5.1.1. % Idle Management Effectiveness by Locomotive Assignment

The following tables show idle reduction and percent Idle Management Effectiveness by locomotive assignment. Each is per locomotive, in Maryland and for stationary idle.

*Table 16 - Power Unit, Idle Management Effectiveness*

| POWER UNIT | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Idle 1 - ME Idle; APU Off | 88.12 | 91.29 | 111.95 | 132.31 | 35.26 | 49.56 | 47.16 | 47.67 | 49.98 | 66.11 | 96.78 | 160.82 |
| Idle 2 - ME Off; APU On | 55.31 | 52.02 | 32.58 | 46.96 | 20.04 | 11.38 | 42.69 | 10.73 | 21.98 | 18.87 | 61.01 | 50.77 |
| Idle 3 - ME Off; APU Off | 19.03 | 26.57 | 38.43 | 74.63 | 88.08 | 105.32 | 145.55 | 206.18 | 188.18 | 167.67 | 128.95 | 46.48 |
| Idle 4 - ME Idle; APU On | 16.43 | 10.97 | 13.32 | 2.28 | 1.89 | 0.69 | 1.69 | 4.00 | 2.07 | 3.75 | 11.35 | 11.68 |
| Total Idle Hours | 178.89 | 180.85 | 196.29 | 256.18 | 145.27 | 166.94 | 237.10 | 268.58 | 262.21 | 256.39 | 298.09 | 269.74 |
| % IME | 41.56% | 43.46% | 36.18% | 47.46% | 74.43% | 69.90% | 79.39% | 80.76% | 80.15% | 72.75% | 63.73% | 36.05% |

*Table 17 - Other, Idle Management Effectiveness*

| OTHER | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Idle 1 - ME Idle; APU Off | 131.72 | 100.22 | 72.28 | 59.01 | 49.85 | 52.86 | 46.19 | 60.81 | 62.59 | 81.62 | 113.46 | 157.80 |
| Idle 2 - ME Off; APU On | 58.98 | 23.35 | 23.95 | 10.55 | 5.46 | 2.06 | 3.96 | 6.71 | 17.32 | 23.03 | 43.37 | 80.77 |
| Idle 3 - ME Off; APU Off | 95.53 | 38.15 | 79.84 | 71.02 | 159.60 | 194.95 | 200.51 | 254.05 | 263.69 | 198.89 | 184.14 | 93.89 |
| Idle 4 - ME Idle; APU On | 17.76 | 10.29 | 3.91 | 3.58 | 1.67 | 0.75 | 0.72 | 0.85 | 1.62 | 2.35 | 4.73 | 18.08 |
| Total Idle Hours | 303.98 | 172.02 | 179.98 | 144.16 | 216.58 | 250.63 | 251.39 | 322.43 | 345.22 | 305.89 | 345.70 | 350.54 |
| % IME | 50.83% | 35.76% | 57.67% | 56.58% | 76.21% | 78.61% | 81.34% | 80.87% | 81.40% | 72.55% | 65.81% | 49.83% |

*Table 18 - RCL, Idle Management Effectiveness*

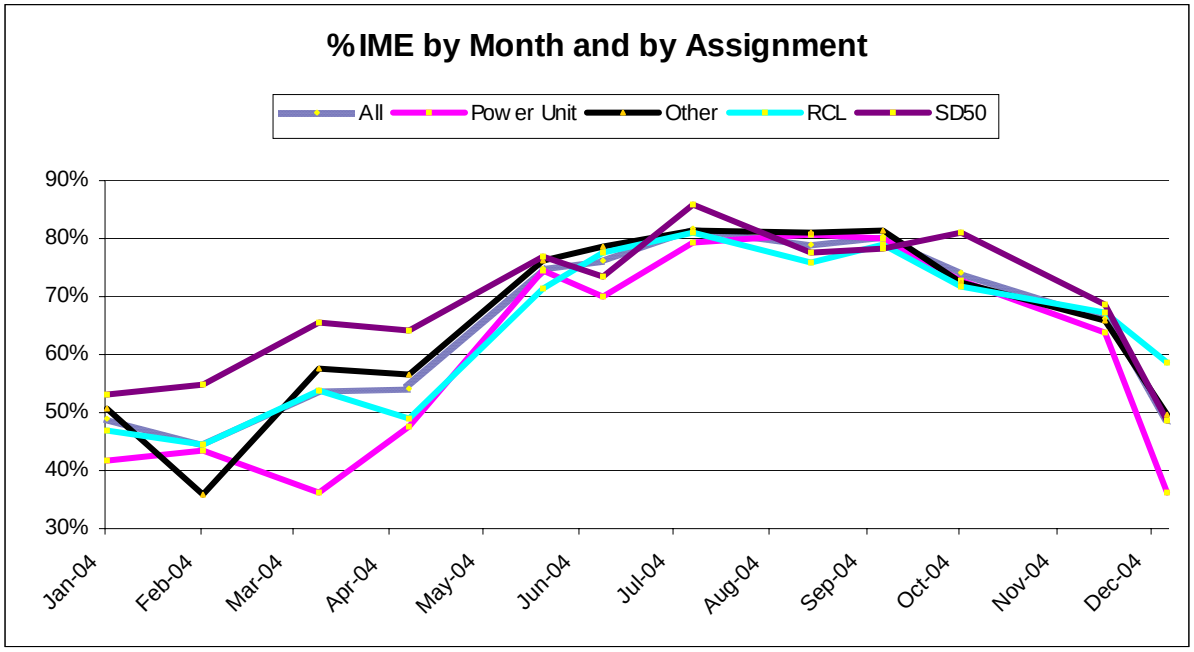
| RCL | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Idle 1 - ME Idle; APU Off | 193.03 | 213.48 | 219.78 | 227.85 | 124.99 | 92.15 | 87.76 | 119.76 | 87.83 | 122.10 | 126.70 | 166.14 |
| Idle 2 - ME Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 17.28 | 7.54 | 15.10 | 32.13 | 23.93 | 62.10 | 98.32 |
| Idle 3 - ME Off; APU Off | 131.72 | 125.12 | 197.25 | 209.35 | 318.09 | 337.77 | 385.38 | 371.76 | 331.48 | 304.17 | 223.81 | 181.38 |
| Idle 4 - ME Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 10.16 | 5.22 | 3.40 | 9.59 | 6.28 | 12.41 | 31.29 |
| Total Idle Hours | 452.63 | 407.46 | 501.71 | 465.15 | 450.53 | 457.36 | 485.90 | 510.02 | 461.03 | 456.48 | 425.02 | 477.13 |
| % IME | 47.04% | 44.64% | 53.89% | 49.13% | 71.53% | 77.63% | 80.86% | 75.85% | 78.87% | 71.88% | 67.27% | 58.62% |

*Table 19 - SD50, Idle Management Effectiveness*

| SD50 | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Idle 1 - ME Idle; APU Off | 58.70 | 102.45 | 99.46 | 90.26 | 55.62 | 71.02 | 32.41 | 70.69 | 44.79 | 54.91 | 127.06 | 192.34 |
| Idle 2 - ME Off; APU On | 68.91 | 66.13 | 57.66 | 47.18 | 17.75 | 19.45 | 16.19 | 28.53 | 20.31 | 33.71 | 62.29 | 113.42 |
| Idle 3 - ME Off; APU Off | 48.84 | 95.96 | 141.70 | 118.50 | 179.99 | 182.60 | 195.68 | 223.39 | 159.05 | 249.81 | 231.58 | 94.08 |
| Idle 4 - ME Idle; APU On | 45.34 | 30.20 | 6.12 | 2.56 | 3.64 | 2.00 | 2.67 | 2.71 | 4.94 | 11.94 | 7.26 | 26.78 |
| Total Idle Hours | 221.78 | 294.73 | 304.94 | 258.50 | 257.01 | 275.07 | 246.94 | 325.32 | 229.09 | 350.36 | 428.19 | 426.62 |
| % IME | 53.09% | 54.99% | 65.38% | 64.09% | 76.94% | 73.45% | 85.79% | 77.44% | 78.29% | 80.92% | 68.63% | 48.64% |

The %IME by assignment is plotted in the Chart 4 below. This allows the apparent similarities and differences in %IME by assignment to be seen.

*Chart 4 - %IME by Month and by Assignment*




The SD50 has the flattest %IME with %IME being best in the warm weather months. The Power Unit assignment is the least flat for %IME across the year. RCL, early in the year during the cold months, had a consistently low %IME but improved dramatically in the warm weather months. RCL %IME then stayed higher than before with the return of colder weather.

In the warm weather months, crews are required to shutdown the main engine and, for the sake of conformity across all locomotives, are encouraged to use the Emergency Fuel Cut Off button for main engine shutdown. EFCO use turns off the APU and ERM thus reducing the amount of time the APU will be on in the warm months.

In the cold months, (below 35°F) there is no mandated requirement to turn off the main engine and, because the APU provides less cab warmth than when the main engine is idling, the crew may take steps to allow the main engine to idle. APU use rises because crews will not EFCO the main engine off at the end of their shift due to the potential for freeze damage and the ERM will shut down the main engine after 30 minutes of idling and the APU will cycle on and off as needed.

The Table 20 below, showing the percent time the engine is off when at a standstill in warm weather versus the percent time the engine is off in cold weather, illustrates the foregoing. The locomotive categories are listed in descending order of greatest percent difference between warm weather shutdown and cold weather shutdown. The Power Units (and their Switch mates) show the greatest difference (34%).

*Table 20 - Percentage of Total Stationary Idle Time Main Engine is Off during Warm Months and Cold Months*

| | WARM ME OFF | COLD ME OFF | Diff. |
|---|---|---|---|
| Power Unit | 74% | 41% | -34% |
| Other | 76% | 50% | -26% |
| RCL | 75% | 51% | -24% |
| SD50 | 77% | 57% | -20% |

### 5.1.2. Potential for Optimization

There are two areas that provide potential to optimize idle reduction.

- Moving idle
- Cold weather idle

Moving Idle – As shown in below Table 21, about 17% of idle hours are idle while moving hours or about 1,105 hours per locomotive per year. For only about 242 hours of these, the locomotive engine is shut down which is a %IME of not quite 22%.

*Table 21 - Stationary and Moving Idle Hours for all Locations per Locomotive*

| ALL LOCATIONS | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stationary Idle Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Moving Idle Hours | 88.19 | 92.77 | 85.09 | 91.01 | 94.09 | 92.01 | 95.51 | 103.13 | 88.16 | 104.34 | 88.43 | 82.63 |
| Total Idle Hours | 513.92 | 504.43 | 512.94 | 512.80 | 526.99 | 523.43 | 578.07 | 580.97 | 545.67 | 591.33 | 554.62 | 562.95 |
| % of Stationary | 20.72% | 22.54% | 19.89% | 21.58% | 21.74% | 21.33% | 19.79% | 21.58% | 19.27% | 21.43% | 18.97% | 17.20% |
| % of Total | 17.16% | 18.39% | 16.59% | 17.75% | 17.85% | 17.58% | 16.52% | 17.75% | 16.16% | 17.65% | 15.94% | 14.68% |

Cold Weather Idle – In the six months of cold weather (January to April and November and December), on a per locomotive basis, there are 1,135 hours of stationary Idle 1 and Idle 4. In the warm months, (May to October) this number reduces to 640 hours. This presents an additional opportunity for up to 495 hours per locomotive of no idling in the cold months.

## 5.2. Assessment of Emissions Reduction

### 5.2.1. Baseline $NO_X$ Emissions Inventory for the 56 CSXT Project Locomotives

To create a baseline, in all following discussions when the potential for $NO_X$ or fuel savings is presented with numbers, the number is derived from the presumption that in the absence of Idle Management the locomotive main engine, at idle, will idle continuously. Thus, the potential tons of NOX or gallons of fuel to save is the difference between the emission or consumption at continuous main engine idling and zero main engine idling. The potential number is a baseline, not a target to be achieved.

**- Pre-Tier 0 Certification**

The 56 Project Locomotives were location tracked continuously over the period of the project. Thus, the following Table 22 was generated showing the time in stationary idle wherever the locomotives were located.

*Table 22 - Hours and Potential Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – All Locations*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Pot. Tons $NO_X$ Emitted | 0.661 | 0.643 | 0.672 | 0.659 | 0.674 | 0.685 | 0.776 | 0.763 | 0.731 | 0.761 | 0.727 | 0.741 |

On a per locomotive basis, in a year, each of these locomotives could have emitted 8.5 Tons of $NO_X$ in stationary idle without idle management. For the 56 locomotives, this would be 476 Tons of $NO_X$ in a year.

Looking at just Maryland for the 56 locomotives, we see the following as presented in Table 23.

*Table 23 - Hours and Potential Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – Maryland Only*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Pot. Tons $NO_X$ Emitted | 0.438 | 0.365 | 0.420 | 0.390 | 0.387 | 0.429 | 0.458 | 0.545 | 0.520 | 0.508 | 0.561 | 0.563 |

On a per locomotive basis, in a year, each of these locomotives could have emitted 5.6 Tons of $NO_X$ in stationary idle without idle management. For the 56 locomotives, this would be 313 Tons of $NO_X$ in a year.

### 5.2.2. Baseline $NO_X$ Emissions Inventory for the 56 CSXT Project Locomotives - Post-Tier 0 Certification

The following $NO_X$ emission levels were calculated using the certified $NO_X$ emission level results as determined in testing that CSXT conducted on each engine family with Southwest Research Institute (SwRI).

If the 56 locomotives had all been certified as meeting Tier 0 requirements, the results would be as follows. (Tier 0 is explained in the following section, 5.2.3 Regulations Related to Locomotive Emissions.)

The Table 24 was generated showing the time in stationary idle wherever the locomotives were and the potential tons of $NO_X$ emitted as Tier 0 locomotives.

*Table 24 - Hours and Potential Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – All Locations*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Pot. Tons $NO_X$ Emitted | 0.324 | 0.315 | 0.326 | 0.323 | 0.332 | 0.329 | 0.367 | 0.366 | 0.350 | 0.371 | 0.355 | 0.360 |

On a per locomotive basis, in a year, each of these locomotives could have emitted 4.1 Tons of $NO_X$ in stationary idle without idle management. For the 56 locomotives, this would be 230.6 Tons of $NO_X$ in a year.

As Tier 0 locomotives, the $NO_X$ emissions are one half of the pre-certification levels.

Looking at just Maryland for the 56 locomotives, we see the following as presented in Table 25.

*Table 25 - Hours and Potential Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – Maryland Only*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Pot. Tons $NO_X$ Emitted | 0.213 | 0.176 | 0.192 | 0.180 | 0.186 | 0.198 | 0.212 | 0.257 | 0.243 | 0.246 | 0.276 | 0.272 |

On a per locomotive basis, in a year, each of these locomotives could have emitted 2.7 Tons of $NO_X$ in stationary idle without idle management. For the 56 locomotives, this would be 148.5 Tons of $NO_X$ in a year at Tier 0.

Again, as Tier 0 locomotives, the $NO_X$ emissions are one half of the pre-certification levels.

The results of $NO_X$ emissions with idle management are discussed in the following section, 5.2.4 Impact of Demonstration APUs on Reducing Baseline Emissions, All Locations and Maryland.

### 5.2.3. Regulations Related to Locomotive Emissions

In 1998, the U.S. Environmental Protection Agency issued final exhaust emission standards for oxides of nitrogen ($NO_X$), hydrocarbons (HC), carbon monoxide (CO), particulate matter (PM) and smoke for newly manufactured and remanufactured locomotives and locomotive engines. These provisions apply to manufacturers, remanufacturers, and owners and operators of

post-1972 locomotives and locomotive engines. The three most significant requirements for railroads relate to:

(1) remanufacture of locomotives,
(2) maintenance of locomotives, and
(3) testing of locomotives.

Since locomotive emissions had not been regulated before, it was necessary for EPA to create a comprehensive program, including not only emission standards, but also test procedures and a full compliance program. This rulemaking, which took effect in 2000, affects railroads, locomotive manufacturers, and locomotive remanufacturers.

In general terms, the overall program is similar to previously established programs for heavy-duty highway engines and other non-road engines. One unique feature included for locomotives, however, is the regulation of the engine remanufacturing process, including the remanufacture of locomotives originally manufactured prior to the effective date of this rulemaking. Regulation of the remanufacturing process is critical because locomotives are generally remanufactured 5 to 10 times during their total service lives (typically 40 years or more).

Three separate sets of emission standards have been adopted, with applicability of the standards dependent on the date a locomotive is first manufactured. The first set of standards (Tier 0) applies to locomotives and locomotive engines originally manufactured from 1973 through 2001, any time they are manufactured or remanufactured. The second set of standards (Tier 1) applies to locomotives and locomotive engines originally manufactured from 2002 through 2004. These locomotives and locomotive engines are required to meet the Tier 1 standards at the time of original manufacture and at each subsequent remanufacture. The final set of standards (Tier 2) applies to locomotives and locomotive engines originally manufactured in 2005 and later. Tier 2 locomotives and locomotive engines are required to meet the applicable standards at the time of original manufacture and at each subsequent remanufacture.

The standards vary for switcher locomotives (at or under 2,300 hp) and line-haul locomotives (over 2,300hp) as shown in the following Table 26 for $NO_X$.

*Table 26 - Maximum Permissible $NO_X$ Emissions by Tier*

| | TIER 0 LINE-HAUL DUTY-CYCLE | TIER 0 SWITCH DUTY-CYCLE | TIER 1 LINE-HAUL DUTY-CYCLE | TIER 1 SWITCH DUTY-CYCLE | TIER 2 LINE-HAUL DUTY-CYCLE | TIER 2 SWITCH DUTY-CYCLE |
|---|---|---|---|---|---|---|
| $NO_X$ (g/bhp-hr) | 9.5 | 14.0 | 7.4 | 11.0 | 5.5 | 8.1 |

### 5.2.4. Impact of Demonstration APUs on Reducing Baseline Emissions, All Locations and Maryland

The following discussion shows that for all locations the 56 project locomotives traveled to

- Tier 0 Certification alone could reduce 245 tons of $NO_X$ at stationary idle
- Idle management alone is calculated to have reduced 302 tons of $NO_x$
- Tier 0 Certification plus idle management could reduce 391 tons of $NO_X$.

Just in the State of Maryland the following shows

- Tier 0 Certification could reduce 164 tons of $NO_X$ at stationary idle
- Idle management alone is calculated to have reduced 203 tons of $NO_X$
- Tier 0 Certification plus idle management could reduce 260 tons of NOX.

**Discussion** - Because of the APU and CSXT's Warm Weather Shutdown Policy, the following Table 27 shows the Tons of $NO_X$ calculated to have been emitted on a per locomotive basis in 2004 based upon the data collected.

*Table 27 - Hours and Actual Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – All Locations*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Act. Tons $NO_X$ Emitted | 0.376 | 0.344 | 0.324 | 0.308 | 0.186 | 0.165 | 0.157 | 0.179 | 0.162 | 0.221 | 0.272 | 0.403 |

On a per locomotive basis, in a year, each of these locomotives is calculated to have emitted 3.1 Tons of NOX in stationary idle. For the 56 locomotives, this would be 173 Tons of NOX – a saving of 303 Tons of NOX when compared to the potential.

Because of the APU and CSXT's Warm Weather Shutdown Policy, the following Table 28 shows the Tons of NOX calculated to have been emitted on a per locomotive basis in 2004 for Maryland only.

*Table 28 - Hours and Actual Tons of $NO_X$ Emitted in Stationary Idle on a per Locomotive Basis – Maryland Only*

| PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Idle Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Act. Tons $NO_X$ Emitted | 0.232 | 0.208 | 0.203 | 0.185 | 0.099 | 0.102 | 0.085 | 0.114 | 0.104 | 0.136 | 0.195 | 0.295 |

On a per locomotive basis, in a year, each of these locomotives is calculated to have emitted 2 Tons of $NO_X$ in stationary idle. For the 56 locomotives, this would be 112 Tons of $NO_X$ – a saving of 201 Tons of $NO_X$ in a year over the potential.

The following Table 29 compares the above results with the $NO_X$ levels that are calculated to be achieved if all 56 locomotives were Tier 0 certified.

*Table 29– $NO_X$ Levels Pre-Cert and Post-Cert With and Without Idle Management*

| | PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pre-Cert | Total Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Locomotives | Pot Tons $NO_X$ to Reduce | 0.661 | 0.643 | 0.672 | 0.659 | 0.674 | 0.685 | 0.776 | 0.763 | 0.731 | 0.761 | 0.727 | 0.741 |
| All Locations | Tons $NO_x$ Reduced | 0.285 | 0.299 | 0.348 | 0.352 | 0.488 | 0.520 | 0.618 | 0.584 | 0.569 | 0.541 | 0.455 | 0.338 |
| Post-Cert | Total Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Locomotives | Pot Tons $NO_X$ to Reduce | 0.324 | 0.315 | 0.326 | 0.323 | 0.332 | 0.329 | 0.367 | 0.366 | 0.350 | 0.371 | 0.355 | 0.360 |
| All Locations | Tons $NO_x$ Reduced | 0.136 | 0.146 | 0.167 | 0.172 | 0.241 | 0.248 | 0.293 | 0.281 | 0.273 | 0.263 | 0.223 | 0.160 |
| Pre-Cert | Total Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Locomotives | Pot Tons $NO_X$ to Reduce | 0.438 | 0.365 | 0.420 | 0.390 | 0.387 | 0.429 | 0.458 | 0.545 | 0.520 | 0.508 | 0.561 | 0.563 |
| Maryland | Tons $NO_X$ Reduced | 0.206 | 0.157 | 0.217 | 0.205 | 0.288 | 0.327 | 0.372 | 0.431 | 0.416 | 0.372 | 0.366 | 0.268 |
| Post-Cert | Total Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Locomotives | Pot Tons $NO_X$ to Reduce | 0.213 | 0.176 | 0.192 | 0.180 | 0.186 | 0.198 | 0.212 | 0.257 | 0.243 | 0.246 | 0.276 | 0.272 |
| Maryland | Tons $NO_X$ Reduced | 0.098 | 0.074 | 0.099 | 0.094 | 0.138 | 0.150 | 0.172 | 0.203 | 0.194 | 0.181 | 0.180 | 0.126 |

For all locations traveled to during 2004, the 56 locomotives, in a pre-certification state, had the potential to emit almost 476 tons of $NO_X$ in stationary idle. Because of idle management, they are calculated to have emitted 173.4 tons of $NO_X$ – a reduction of 302.2 tons.

Had these same locomotives been Tier 0 certified, their potential to emit $NO_X$, by calculation, would have been reduced to 230.6 tons in stationary idle – a reduction of 245 tons. With Tier 0 certification and idle management, their $NO_X$ emission is calculated to be 84.9 tons, a reduction of almost 391 tons from the original Pre-Certification, no idle management state.

Summarizing:

- Tier 0 Certification alone could reduce 245 tons of $NO_X$ at stationary idle.
- Idle management alone is calculated to have reduced 302 tons of $NO_x$.
- Tier 0 Certification plus idle management could reduce 391 tons of $NO_X$.

Similarly in Maryland alone:

- Tier 0 Certification could reduce 164 tons of $NO_X$ at stationary idle.
- Idle management alone is calculated to have reduced 203 tons of $NO_X$.
- Tier 0 Certification plus idle management could reduce 260 tons of $NO_X$.

The foregoing savings are at the levels actually demonstrated by the data collected during 2004.

### 5.2.5. Impact of Idle Management on Maryland Air Quality Non-Attainment Areas
### - Pre Tier 0 Certification

Table 30 following, illustrates the fuel and $NO_X$ savings resulting in the air quality non-attainment counties of Maryland from the use of APUs on the 56 Project locomotives and CSXT's "Warm Weather Policy" or "Idle Management".

Each county listed is an air quality non-attainment area during the months of May through to the end of September. The total stationary hours the 56 locomotives spent in that county by month is shown to give a perspective on the effect of idle management. While stationary, the locomotive may have been idling or may have been shutdown.

Listed, shaded in blue, is the potential fuel that could have been consumed by those locomotives had there been no idle management in place. This is followed by the calculated fuel actually consumed based upon the quantity of stationary hours the 56 locomotives spent idling in the county. This is further followed by the calculated gallons of fuel saved in the county because of idle management.

In a similar fashion, the $NO_X$ emissions are shown in the pale yellow areas against each non-attainment county.

A summary of the results of idle management on the 56 project locomotives in the non-attainment counties during the critical warm weather months shows a calculated 148,700 gallon fuel saving and a calculated 60.2 ton $NO_X$ emission saving.

*Table 30 – Stationary Hours, Fuel Consumed and $NO_X$ Emitted by Maryland Non-attainment County*

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| ANNE ARUNDEL | Total Stationary Hours in County | 14.80 | 5.93 | 7.33 | 286.32 | 647.72 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 59.20 | 23.73 | 29.33 | 1,145.27 | 2,590.87 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 34.17 | 22.74 | 26.94 | 172.54 | 283.75 |
| | Fuel Saved - Gal (Idle Stat) | 25.03 | 0.99 | 2.40 | 972.73 | 2,307.11 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.02 | 0.01 | 0.01 | 0.44 | 1.03 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.01 | 0.01 | 0.07 | 0.11 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.01 | 0.00 | 0.00 | 0.38 | 0.92 |
| BALTIMORE | Total Stationary Hours in County | 3,966.30 | 2,771.32 | 4,327.17 | 5,136.77 | 6,771.72 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 15,865.20 | 11,085.27 | 17,308.67 | 20,547.07 | 27,086.87 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 5,073.39 | 3,701.14 | 3,739.72 | 4,412.61 | 6,689.38 |
| | Fuel Saved - Gal (Idle Stat) | 10,791.81 | 7,384.13 | 13,568.95 | 16,134.46 | 20,397.48 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 6.13 | 4.41 | 7.31 | 8.56 | 11.37 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 1.91 | 1.45 | 1.47 | 1.77 | 2.65 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 4.21 | 2.96 | 5.84 | 6.79 | 8.72 |
| BALTIMORE CITY | Total Stationary Hours in County | 53.93 | 68.30 | 71.15 | 160.55 | 182.88 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 215.73 | 273.20 | 284.60 | 642.20 | 731.53 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 83.06 | 162.94 | 120.27 | 272.11 | 125.79 |
| | Fuel Saved - Gal (Idle Stat) | 132.68 | 110.26 | 164.33 | 370.09 | 605.74 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.09 | 0.11 | 0.13 | 0.29 | 0.33 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.03 | 0.06 | 0.05 | 0.11 | 0.05 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.05 | 0.05 | 0.08 | 0.17 | 0.28 |
| CARROLL | Total Stationary Hours in County | 25.47 | 52.45 | 76.15 | 27.43 | 44.45 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 101.87 | 209.80 | 304.60 | 109.73 | 177.80 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 39.74 | 111.13 | 124.00 | 42.27 | 126.02 |
| | Fuel Saved - Gal (Idle Stat) | 62.13 | 98.67 | 180.60 | 67.47 | 51.78 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.03 | 0.09 | 0.14 | 0.04 | 0.05 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.05 | 0.06 | 0.01 | 0.04 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.02 | 0.04 | 0.08 | 0.02 | 0.01 |
| CECIL | Total Stationary Hours in County | 5.40 | 10.82 | 7.93 | 49.10 | 147.07 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 21.60 | 43.27 | 31.73 | 196.40 | 588.27 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 21.74 | 26.20 | 20.40 | 83.03 | 199.19 |
| | Fuel Saved - Gal (Idle Stat) | -0.14 | 17.07 | 11.33 | 113.37 | 389.08 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.02 | 0.01 | 0.07 | 0.27 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.01 | 0.01 | 0.03 | 0.09 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.01 | 0.01 | 0.05 | 0.18 |
| CHARLES | Total Stationary Hours in County | 0.00 | 0.00 | 1.65 | 41.90 | 1.25 |
| | Potential Fuel Consumed - Gal (Idle Stat) | | | 6.60 | 167.60 | 5.00 |
| | Actual Fuel Consumed - Gal (Idle Stat) | | | 5.33 | 1.21 | 5.00 |
| | Fuel Saved - Gal (Idle Stat) | | | 1.27 | 166.39 | 0.00 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | | | 0.00 | 0.08 | 0.00 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | | | 0.00 | 0.00 | 0.00 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | | | 0.00 | 0.08 | 0.00 |

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| FREDERICK | Total Stationary Hours in County | 961.03 | 1,367.65 | 1,263.82 | 2,451.23 | 1,689.50 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 3,844.13 | 5,470.60 | 5,055.27 | 9,804.93 | 6,758.00 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 634.07 | 949.48 | 537.17 | 2,167.14 | 1,076.61 |
| | Fuel Saved - Gal (Idle Stat) | 3,210.06 | 4,521.12 | 4,518.10 | 7,637.79 | 5,681.39 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 1.41 | 1.90 | 1.75 | 3.60 | 2.55 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.21 | 0.31 | 0.20 | 0.71 | 0.39 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 1.20 | 1.59 | 1.54 | 2.89 | 2.16 |
| HARFORD | Total Stationary Hours in County | 2.85 | 10.58 | 9.68 | 252.87 | 189.90 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 11.40 | 42.33 | 38.73 | 1,011.47 | 759.60 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 11.40 | 24.16 | 28.00 | 332.47 | 290.84 |
| | Fuel Saved - Gal (Idle Stat) | 0.00 | 18.18 | 10.73 | 679.00 | 468.76 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.02 | 0.02 | 0.32 | 0.22 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.01 | 0.01 | 0.11 | 0.07 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.01 | 0.00 | 0.21 | 0.15 |
| HOWARD | Total Stationary Hours in County | 1,095.30 | 1,182.58 | 829.92 | 1,106.17 | 1,457.37 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 4,381.20 | 4,730.33 | 3,319.67 | 4,424.67 | 5,829.47 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 791.57 | 564.91 | 450.27 | 983.75 | 856.13 |
| | Fuel Saved - Gal (Idle Stat) | 3,589.63 | 4,165.42 | 2,869.40 | 3,440.92 | 4,973.34 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 1.87 | 2.13 | 1.49 | 1.97 | 2.48 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.32 | 0.25 | 0.20 | 0.44 | 0.37 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 1.54 | 1.88 | 1.30 | 1.54 | 2.11 |
| KENT | Total Stationary Hours in County | 1.38 | 3.08 | 11.68 | 5.75 | 0.98 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 5.53 | 12.33 | 46.73 | 23.00 | 3.93 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 4.53 | 9.33 | 10.35 | 3.00 | 3.93 |
| | Fuel Saved - Gal (Idle Stat) | 1.00 | 3.00 | 36.38 | 20.00 | 0.00 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| MONTGOMERY | Total Stationary Hours in County | 382.13 | 493.73 | 535.62 | 734.38 | 624.18 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 1,528.53 | 1,974.93 | 2,142.47 | 2,937.53 | 2,496.73 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 140.66 | 347.25 | 360.20 | 322.78 | 245.40 |
| | Fuel Saved - Gal (Idle Stat) | 1,387.87 | 1,627.69 | 1,782.27 | 2,614.75 | 2,251.33 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.43 | 0.62 | 0.79 | 1.04 | 0.94 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.04 | 0.12 | 0.13 | 0.11 | 0.09 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.39 | 0.50 | 0.65 | 0.93 | 0.85 |
| PRINCE GEORGES | Total Stationary Hours in County | 50.47 | 41.80 | 20.47 | 68.45 | 33.42 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 201.87 | 167.20 | 81.87 | 273.80 | 133.67 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 116.07 | 99.60 | 51.77 | 86.43 | 79.53 |
| | Fuel Saved - Gal (Idle Stat) | 85.80 | 67.60 | 30.09 | 187.37 | 54.13 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.08 | 0.08 | 0.03 | 0.11 | 0.06 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.05 | 0.05 | 0.02 | 0.04 | 0.04 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.03 | 0.03 | 0.01 | 0.08 | 0.03 |

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| WASHINGTON | Total Stationary Hours in County | 639.93 | 1,044.60 | 1,109.15 | 1,673.45 | 1,468.30 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 2,559.73 | 4,178.40 | 4,436.60 | 6,693.80 | 5,873.20 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 483.26 | 876.29 | 917.91 | 1,583.65 | 1,241.34 |
| | Fuel Saved - Gal (Idle Stat) | 2,076.47 | 3,302.11 | 3,518.69 | 5,110.15 | 4,631.86 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.99 | 1.86 | 1.83 | 2.56 | 2.30 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.18 | 0.38 | 0.35 | 0.62 | 0.45 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.81 | 1.48 | 1.48 | 1.94 | 1.85 |

Note: Several entries (see Cecil County) may include a negative sign in the "Saved" row. This is the result of the APU running in addition to the main engine idling and can be the self-exercise feature of the APU. The calculation for the "Potential Fuel Consumed" row or the "Potential $NO_X$ Emitted" row assumes the APU will not be running.

### 5.2.6. Impact of Idle Management on Maryland Air Quality Non-Attainment Areas

**- Post Tier 0 Certification** – (If the 56 project locomotives were Tier 0 Certified.)

Table 30 is repeated as Table 31 below to show the results if all fifty-six locomotives were Tier 0 Certified.

*Table 31 – Stationary Hours, Fuel Consumed and $NO_X$ Emitted by Maryland Non-attainment County for Post Tier 0 Certified Locomotives*

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| ANNE ARUNDEL | Total Stationary Hours in County | 14.80 | 5.93 | 7.33 | 286.32 | 647.72 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 55.19 | 20.79 | 27.18 | 910.66 | 2,046.46 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 30.84 | 20.12 | 25.00 | 138.33 | 234.41 |
| | Fuel Saved - Gal (Idle Stat) | 24.35 | 0.67 | 2.19 | 772.33 | 1,812.05 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.00 | 0.01 | 0.20 | 0.45 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.00 | 0.01 | 0.03 | 0.05 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.01 | 0.00 | 0.00 | 0.17 | 0.40 |
| BALTIMORE | Total Stationary Hours in County | 3,966.30 | 2,771.32 | 4,327.17 | 5,136.77 | 6,771.72 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 13,552.10 | 9,420.34 | 14,459.93 | 18,227.19 | 24,267.59 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 4,303.29 | 3,121.28 | 3,176.11 | 3,889.06 | 5,939.69 |
| | Fuel Saved - Gal (Idle Stat) | 9,248.81 | 6,299.06 | 11,283.82 | 14,338.13 | 18,327.90 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 3.01 | 2.07 | 3.12 | 3.95 | 5.37 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.93 | 0.67 | 0.65 | 0.81 | 1.24 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 2.08 | 1.41 | 2.47 | 3.14 | 4.13 |

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| BALTIMORE CITY | Total Stationary Hours in County | 53.93 | 68.30 | 71.15 | 160.55 | 182.88 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 178.61 | 223.92 | 242.82 | 557.34 | 635.98 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 72.75 | 130.24 | 104.25 | 241.69 | 108.51 |
| | Fuel Saved - Gal (Idle Stat) | 105.85 | 93.67 | 138.57 | 315.65 | 527.47 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.04 | 0.05 | 0.05 | 0.12 | 0.14 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.02 | 0.03 | 0.02 | 0.05 | 0.02 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.02 | 0.02 | 0.03 | 0.07 | 0.12 |
| CARROLL | Total Stationary Hours in County | 25.47 | 52.45 | 76.15 | 27.43 | 44.45 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 91.56 | 187.57 | 271.51 | 82.62 | 131.69 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 38.58 | 99.30 | 106.11 | 35.02 | 93.98 |
| | Fuel Saved - Gal (Idle Stat) | 52.98 | 88.26 | 165.40 | 47.60 | 37.71 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.02 | 0.04 | 0.06 | 0.02 | 0.03 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.01 | 0.02 | 0.02 | 0.01 | 0.02 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.01 | 0.02 | 0.04 | 0.01 | 0.01 |
| CECIL | Total Stationary Hours in County | 5.40 | 10.82 | 7.93 | 49.10 | 147.07 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 20.62 | 36.05 | 27.44 | 164.10 | 543.20 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 20.76 | 22.88 | 16.91 | 71.01 | 183.17 |
| | Fuel Saved - Gal (Idle Stat) | -0.14 | 13.17 | 10.54 | 93.09 | 360.02 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.01 | 0.01 | 0.04 | 0.13 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.00 | 0.00 | 0.02 | 0.09 |
| CHARLES | Total Stationary Hours in County | 0.00 | 0.00 | 1.65 | 41.90 | 1.25 |
| | Potential Fuel Consumed - Gal (Idle Stat) | | 0.00 | 5.79 | 134.60 | 3.64 |
| | Actual Fuel Consumed - Gal (Idle Stat) | | 0.00 | 4.60 | 0.90 | 3.64 |
| | Fuel Saved - Gal (Idle Stat) | | 0.00 | 1.19 | 133.70 | 0.00 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | | 0.00 | 0.00 | 0.03 | 0.00 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | | 0.00 | 0.00 | 0.00 | 0.00 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | | 0.00 | 0.00 | 0.03 | 0.00 |
| FREDERICK | Total Stationary Hours in County | 961.03 | 1,367.65 | 1,263.82 | 2,451.23 | 1,689.50 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 3,045.53 | 4,704.07 | 4,451.62 | 8,124.12 | 5,818.41 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 528.15 | 823.34 | 493.79 | 1,757.20 | 924.95 |
| | Fuel Saved - Gal (Idle Stat) | 2,517.38 | 3,880.73 | 3,957.82 | 6,366.92 | 4,893.46 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.71 | 1.05 | 0.99 | 1.87 | 1.29 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.11 | 0.18 | 0.11 | 0.39 | 0.20 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.60 | 0.87 | 0.88 | 1.47 | 1.09 |

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| HARFORD | Total Stationary Hours in County | 2.85 | 10.58 | 9.68 | 252.87 | 189.90 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 10.14 | 34.22 | 31.13 | 756.57 | 557.83 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 10.14 | 19.05 | 22.85 | 256.80 | 230.45 |
| | Fuel Saved - Gal (Idle Stat) | 0.00 | 15.18 | 8.28 | 499.77 | 327.38 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.01 | 0.01 | 0.18 | 0.13 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.01 | 0.06 | 0.05 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.00 | 0.00 | 0.12 | 0.09 |
| HOWARD | Total Stationary Hours in County | 1,095.30 | 1,182.58 | 829.92 | 1,106.17 | 1,457.37 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 4,060.80 | 4,384.82 | 2,915.53 | 3,662.47 | 5,044.41 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 743.42 | 521.14 | 406.77 | 807.83 | 720.83 |
| | Fuel Saved - Gal (Idle Stat) | 3,317.38 | 3,863.69 | 2,508.76 | 2,854.64 | 4,323.58 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.91 | 1.02 | 0.67 | 0.76 | 1.04 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.16 | 0.12 | 0.09 | 0.17 | 0.15 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.74 | 0.90 | 0.58 | 0.59 | 0.90 |
| KENT | Total Stationary Hours in County | 1.38 | 3.08 | 11.68 | 5.75 | 0.98 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 4.03 | 9.48 | 35.35 | 18.03 | 2.87 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 3.30 | 7.07 | 7.58 | 2.19 | 2.87 |
| | Fuel Saved - Gal (Idle Stat) | 0.73 | 2.41 | 27.77 | 15.84 | 0.00 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| MONTGOMERY | Total Stationary Hours in County | 382.13 | 493.73 | 535.62 | 734.38 | 624.18 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 1,122.03 | 1,689.91 | 2,081.46 | 2,652.46 | 2,221.47 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 109.91 | 299.80 | 342.59 | 279.17 | 212.26 |
| | Fuel Saved - Gal (Idle Stat) | 1,012.12 | 1,390.11 | 1,738.87 | 2,373.29 | 2,009.21 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.27 | 0.38 | 0.45 | 0.59 | 0.47 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.02 | 0.07 | 0.07 | 0.06 | 0.05 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.24 | 0.31 | 0.37 | 0.53 | 0.42 |
| PRINCE GEORGES | Total Stationary Hours in County | 50.47 | 41.80 | 20.47 | 68.45 | 33.42 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 188.02 | 156.87 | 75.21 | 240.94 | 123.68 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 105.43 | 93.14 | 47.60 | 76.49 | 74.55 |
| | Fuel Saved - Gal (Idle Stat) | 82.59 | 63.73 | 27.61 | 164.45 | 49.13 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.04 | 0.04 | 0.02 | 0.05 | 0.03 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.02 | 0.02 | 0.01 | 0.04 | 0.01 |

| County | Data | MAY-04 Total | JUN-04 Total | JUL-04 Total | AUG-04 Total | SEP-04 Total |
|---|---|---|---|---|---|---|
| WASHINGTON | Total Stationary Hours in County | 639.93 | 1,044.60 | 1,109.15 | 1,673.45 | 1,468.30 |
| | Potential Fuel Consumed - Gal (Idle Stat) | 2,379.59 | 3,435.44 | 3,796.99 | 6,099.10 | 4,967.35 |
| | Actual Fuel Consumed - Gal (Idle Stat) | 455.94 | 732.14 | 825.62 | 1,472.35 | 1,019.14 |
| | Fuel Saved - Gal (Idle Stat) | 1,923.65 | 2,703.30 | 2,971.37 | 4,626.75 | 3,948.20 |
| | Potential $NO_X$ Emitted - Tons (Idle Stat) | 0.49 | 0.73 | 0.81 | 1.33 | 1.10 |
| | Actual $NO_X$ Emitted - Tons (Idle Stat) | 0.09 | 0.15 | 0.17 | 0.32 | 0.22 |
| | $NO_X$ Emissions Reduced - Tons (Idle Stat) | 0.40 | 0.58 | 0.63 | 1.01 | 0.88 |

The following Table 32 summarizes for the 56 project locomotives the differences between non-certified locomotives and Tier 0 certified locomotives with and without idle management (APU and Warm Weather Shutdown Policy).

*Table 32 – Summary of the Effect of Idle Management and Tier 0 Certification on the Non-attainment Counties in Maryland in Stationary Idle*

| Item | TOTAL FOR Pre-Cert | TOTAL FOR Post-Cert | DIFFERENCE |
|---|---|---|---|
| Potential Fuel Consumed - Gal (Idle Stat) | 191,106.66 | 165,428.44 | 25,678.22 |
| Actual Fuel Consumed - Gal (Idle Stat) | 42,407.06 | 36,668.32 | 5,738.74 |
| Fuel Saved - Gal (Idle Stat) | 148,699.61 | 128,760.12 | 19,939.49 |
| Potential $NO_X$ Emitted - Tons (Idle Stat) | 76.52 | 36.44 | 40.08 |
| Actual $NO_X$ Emitted - Tons (Idle Stat) | 16.35 | 7.82 | 8.53 |
| $NO_X$ Emissions Reduced - Tons (Idle Stat) | 60.16 | 28.62 | 31.54 |

Non-Tier 0 locomotives are calculated to consume 25,678 gallons more fuel when there is no idle management.

Non-Tier 0 locomotives are calculated to emit 40 tons more $NO_X$ when there is no idle management.

With the addition of idle management, the fuel consumed difference is calculated to drop to 5,739 gallons and the $NO_X$ emission difference is calculated to drop to 8.5 tons.

In other words, for the 56 locomotives in the non-attainment counties:

- Tier 0 Certification alone could conserve 25,678 gallons of fuel
- Tier 0 Certification alone could prevent the emission of 40 tons of $NO_X$
- Idle Management alone is calculated to conserve 148,670 gallons of fuel.
- Idle Management alone is calculated to have prevented the emission of 60 tons of $NO_X$.
- The combination could conserve 154,000 gallons of fuel and prevent the emission of 68.7 tons of $NO_X$.

This shows idle management plays a large role in fuel conservation and emissions reductions.

## 5.3. Assessment of Fuel Consumption Reduction

### 5.3.1. Fuel Consumption Baseline for CSXT Locomotives, Nationally and for Maryland

Table 33 below, displays the calculated fuel consumption for the 56 project locomotives for all locations they traveled in including the State of Maryland. All the statistics shown are for the locomotives when they were in a stationary condition idling or shutdown per the line, "Total Stationary Hours."

The line, "Gal Fuel Saved", shows the fuel that was not consumed because the locomotive engine was shut down, either the result of the APU/ERM or the CSXT Warm Weather Shutdown Policy.

The line, "Pot. Gal Fuel to Save", represents the maximum fuel savings possible if the main engine never idled when the locomotive was stationary.

The line, "Missed Fuel Savings", represents the difference between gallons of fuel actually saved and the potential gallons of fuel to save. This is not an achievable value as it is based upon zero main engine running idle time.

*Table 33 - Hours and Gallons of Fuel Consumed in Stationary Idle on a per Locomotive Basis – All Locations*

| STATISTIC PER LOCOMOTIVE | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Idle Management Effectiveness | 45.06% | 48.66% | 53.01% | 54.90% | 72.60% | 75.57% | 80.31% | 76.85% | 78.47% | 71.75% | 63.71% | 47.18% |
| Total Stationary Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| Gal Fuel Saved | 678.55 | 724.70 | 848.65 | 891.32 | 1242.53 | 1288.77 | 1532.36 | 1454.99 | 1412.43 | 1365.23 | 1136.23 | 816.34 |
| Pot. Gal Fuel to Save | 1,702.89 | 1,646.61 | 1,711.40 | 1,687.18 | 1,731.60 | 1,725.67 | 1,930.23 | 1,911.39 | 1,830.05 | 1,947.96 | 1,864.74 | 1,921.28 |
| Missed Fuel Savings | 1,024.34 | 921.91 | 862.75 | 795.85 | 489.07 | 436.89 | 397.88 | 456.40 | 417.62 | 582.73 | 728.52 | 1,104.94 |

The summary of the foregoing is each project locomotive spent an average of 5,402 hours not moving during 2004. About 3,460 of these stationary hours were spent with the main engine shut down for an annual %IME of about 64%.

Each locomotive, on average, could have consumed 21,611 gallons of fuel over the year but is calculated to have consumed 8,219 gallons and thus saved the consumption of 13,392 gallons through idle management.

*Table 34 - Hours and Gallons of Fuel Consumed in Stationary Idle on a per Locomotive Basis – Maryland Only*

| MD Statistic per loco - Stat | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Idle Management Effectiveness | 49.03% | 44.56% | 53.89% | 54.05% | 74.79% | 76.05% | 81.78% | 79.14% | 80.24% | 74.17% | 66.33% | 48.71% |
| Total Stationary Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| Gal Fuel Saved | 491.12 | 378.80 | 531.67 | 502.00 | 728.78 | 797.80 | 919.10 | 1,063.08 | 1,007.78 | 938.18 | 918.97 | 642.62 |
| Pot. Gal Fuel to Save | 1,131.53 | 941.04 | 1,050.03 | 968.86 | 987.12 | 1,059.97 | 1,137.36 | 1,356.44 | 1,276.73 | 1,291.85 | 1,448.81 | 1,465.96 |
| Missed Fuel Savings | 640.41 | 562.24 | 518.36 | 466.86 | 258.34 | 262.17 | 218.26 | 293.36 | 268.95 | 353.67 | 529.85 | 823.33 |

The above Table 34 is the same as the previous table but is for the State of Maryland only.

The summary of this data is each project locomotive spent an average of 3,530 hours not moving during 2004 in Maryland. About 2,300 of these stationary hours were spent with the main engine shut down for an annual %IME of about 65%.

Each locomotive, on average, could have consumed 14,115 gallons of fuel over the year but actually is calculated to have consumed 5,196 gallons. Each thus saved the consumption of 8,920 gallons through idle management.

### 5.3.2. Impact of Demonstration APUs on Reducing Fuel Consumption and $NO_X$, Maryland and CSXT System Wide

The following represents the CSXT national ownership of the classifications of locomotives studied in this project. This is not the total ownership of CSXT locomotives. These are presented here because the data is most accurately known for these classifications. The 56 locomotives studied were all assigned to CSXT's Baltimore Division and although some of them traveled beyond the confines of the Baltimore Division, they still typically represent the assignments of the Baltimore Division. It is a stretch to extrapolate the data collected for these locomotives into the CSXT system fleet and state that it is exactly representative of the assignments for these classifications in system wide service. However, an objective of the project was to try to establish a picture of the fuel savings and emissions reduction capabilities of the CSXT fleet.

*Table 35 – CSXT Ownership of the Engine Types Studied in the Project*

| | Inventory of Class in Project | Inventory of Class Nationally | Item | Total for Project | Total System Wide |
|---|---|---|---|---|---|
| GP38-2 | 13 | 284 | Potential Fuel Consumed - Gal (Idle Stat) | 280,369 | 6,124,974 |
| | | | Actual Fuel Consumed - Gal (Idle Stat) | 104,065 | 2,273,418 |
| | | | Fuel Saved - Gal (Idle Stat) | 176,304 | 3,851,557 |
| | | | Potential NOx Emitted - Tons (Idle Stat) | 96 | 2,105 |
| | | | Actual NOx Emitted - Tons (Idle Stat) | 34 | 750 |
| | | | NOx Emissions Reduced - Tons (Idle Stat) | 62 | 1,355 |
| GP40-2 | 27 | 440 | Potential Fuel Consumed - Gal (Idle Stat) | 534,023 | 8,702,597 |
| | | | Actual Fuel Consumed - Gal (Idle Stat) | 211,230 | 3,442,262 |
| | | | Fuel Saved - Gal (Idle Stat) | 322,793 | 5,260,335 |
| | | | Potential NOx Emitted - Tons (Idle Stat) | 247 | 4,019 |
| | | | Actual NOx Emitted - Tons (Idle Stat) | 93 | 1,510 |
| | | | NOx Emissions Reduced - Tons (Idle Stat) | 154 | 2,510 |
| SD40-2 | 4 | 453 | Potential Fuel Consumed - Gal (Idle Stat) | 87,018 | 9,854,774 |
| | | | Actual Fuel Consumed - Gal (Idle Stat) | 35,402 | 4,009,222 |
| | | | Fuel Saved - Gal (Idle Stat) | 51,616 | 5,845,552 |
| | | | Potential NOx Emitted - Tons (Idle Stat) | 40 | 4,552 |
| | | | Actual NOx Emitted - Tons (Idle Stat) | 16 | 1,772 |
| | | | NOx Emissions Reduced - Tons (Idle Stat) | 25 | 2,779 |
| SD50 | 12 | 177 | Potential Fuel Consumed - Gal (Idle Stat) | 247,104 | 3,644,780 |
| | | | Actual Fuel Consumed - Gal (Idle Stat) | 90,190 | 1,330,299 |
| | | | Fuel Saved - Gal (Idle Stat) | 156,914 | 2,314,481 |
| | | | Potential NOx Emitted - Tons (Idle Stat) | 68 | 1,003 |
| | | | Actual NOx Emitted - Tons (Idle Stat) | 23 | 345 |
| | | | NOx Emissions Reduced - Tons (Idle Stat) | 45 | 658 |

## 5.4. Noise Benefits

The following Table 36, also shown in Appendix 2, shows the noise benefits when the idling locomotive main engine is shut down and only the APU is running. The column, "Locomotive Shut Down" represents the ambient noise levels. The column, "APU Loaded" is only moderately noisier than ambient and "Locomotive Idle" is significantly noisier than "APU Loaded".

*Table 36 – APU Noise Levels*

| DISTANCE | LOCOMOTIVE SHUT DOWN (AMBIENT NOISE LEVEL - dBA) | APU LOADED (dBA) | LOCOMOTIVE IDLE (dBA) |
|---|---|---|---|
| 100 Ft. Forward | 42.0-45.0 / 44.0 | 49.5-51.5 / 51.0 | 55.5 - 56.5 |
| 150 Ft. Forward | 42.0-45.0 / 44.0 | 45.5-47.0 / 46.8 | 53.5 - 54.5 |
| 100 Ft. Crew Side | 40.0-55.0 / 48.0 | 55.0-57.0 / 56.0 | 64.0 - 66.0 |
| 150 Ft. Crew Side | 41.0-50.0 / 48.0 | 51.0-55.0 / 54.0 | 59.0 - 61.0 |
| 100 Ft. Rearward | 40.0-45.0 / 44.0 | 49.5-51.0 / 50.5 | 57.0 - 58.5 |
| 150 Ft. Rearward | 38.0-44.0 / 42.0 | 47.0-48.5 / 48.0 | 54.0 - 55.0 |
| 100 Ft. Engineer Side | 42.0-46.0 / 45.0 | 50.5-52.0 / 51.8 | 62.0 - 63.0 |
| 150 Ft. Engineer Side | 42.0-45.0 / 44.0 | 48.0-49.0 / 48.5 | 57.5 - 58.5 |

## 5.5. Economic Analysis

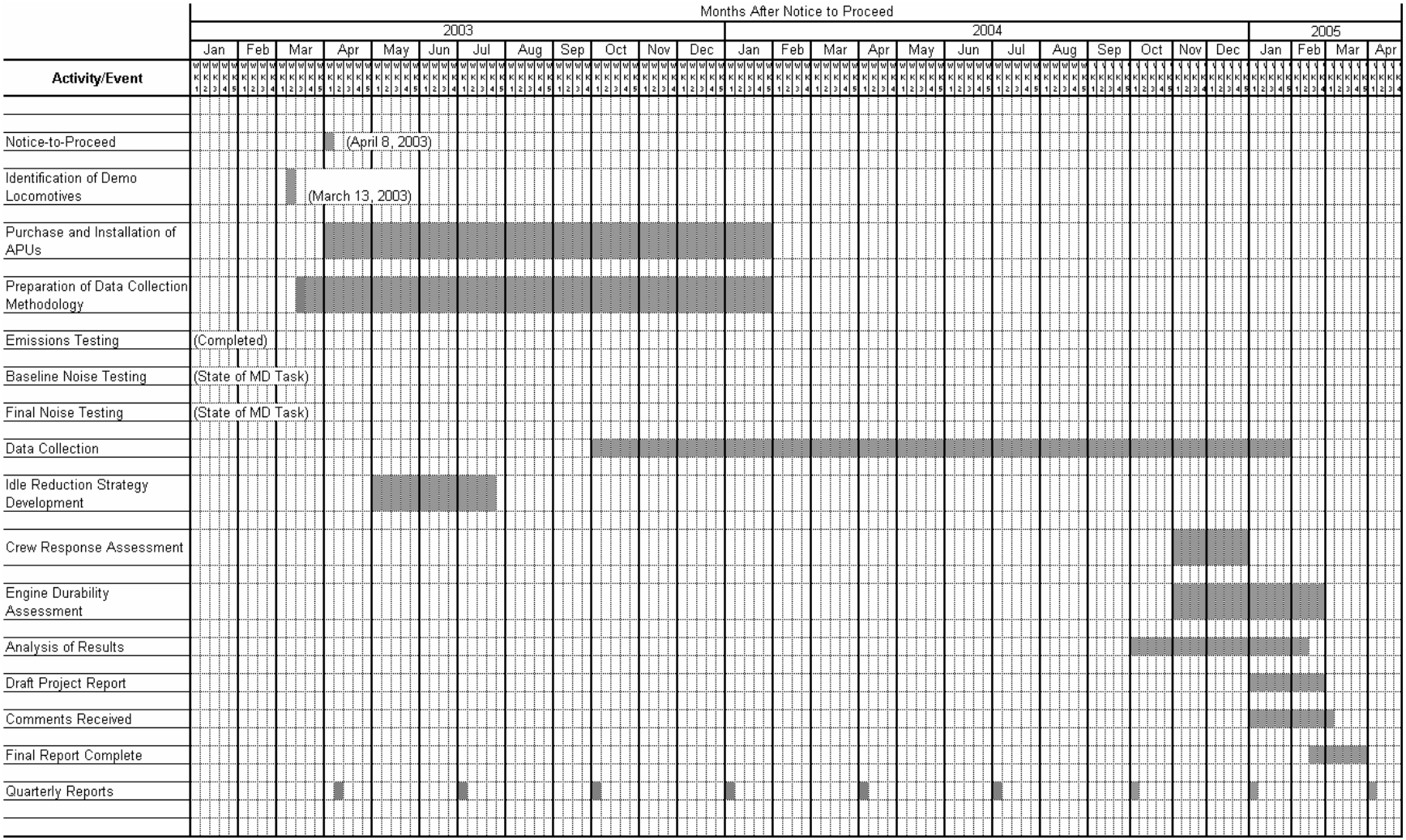
Based upon a nominal $30,000 capital cost to procure and install an Auxiliary Power Unit on a locomotive and based upon a $1.00 per gallon fuel cost, the data collected for the fifty-six locomotives shows the following paybacks per Table 37. This is the result of the combination of APU use and warm weather shutdown policy.

*Table 37 – APU Payback Based upon Data Collected in 2004 for 56 Project Locomotives*

| | STATIONARY & MOVING IDLE | STATIONARY ONLY IDLE |
|---|---|---|
| Dollars of Fuel Saved @ $1.00/gal | $755,000 | $708,000 |
| Payback Years per Line 1. Above | 2.2 | 2.4 |

The numbers above represent the savings calculated from the data collected in the project. This is at a %IME of 64% to 65% and is the result of the APU and warm weather shutdown. The nominal $30,000 capital cost and installation labor is recovered in 2.2 years.

One of the advantages of the APU is its ability to shut down main engines on moving idling locomotives as well as stationary idling locomotives. The payback differences are highlighted in the above table for both assessments.


Months After Notice to Proceed
2003
2004
2005
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Activity/Event
Notice-to-Proceed
(April 8, 2003)
Identification of Demo Locomotives
(March 13, 2003)
Purchase and Installation of APUs
Preparation of Data Collection Methodology
Emissions Testing
(Completed)
Baseline Noise Testing
(State of MD Task)
Final Noise Testing
(State of MD Task)
Data Collection
Idle Reduction Strategy Development
Crew Response Assessment
Engine Durability Assessment
Analysis of Results
Draft Project Report
Comments Received
Final Report Complete
Quarterly Reports

## CSXT Conducted APU Sound Level Testing (August 24, 2001)

CSXT conducted ambient sound level tests August 24, 2001 at 100 and 150-foot distances around APU equipped SD40-2 unit CSXT 8202. Testing was conducted to determine the differences between the ambient noise levels around the locomotive at low idle, high idle (notch 3), APU running unloaded, APU running loaded and locomotive completely shut down. Sound levels were recorded at 100 and 150-foot distances forward (from the short hood), rearward and to both sides from the center of the locomotive.

Conditions were sunny and clear with a very light occasional breeze and 87 to 90°F. A Quest model 215 sound level meter was used. Calibration was checked with a 110 dB model CA-12 calibrator that the meter read as 110 dBA.

All results are in dBA with the first two results being the average range of the readings at the FAST response setting and the last reading the average reading at the SLOW response setting. (Example: 65.0 - 66.0 / 65.8; 65.0 to 66.0 dBA range in FAST response and 65.8 dBA average in SLOW response setting.) Typically, the SLOW response average was about two thirds or three fourths of the range in FAST response setting. The results are as follows.

| Distance | Locomotive Shut Down | Idle | High Idle Notch 3 | APU Unloaded | APU Loaded |
|---|---|---|---|---|---|
| 100 Ft. Forward | 42.0-45.0 / 44.0 | 55.5 - 56.5 | 65.0-66.0 / 65.8 | 47.0-48.5 / 48.0* | 49.5-51.5 / 51.0 |
| 150 Ft. Forward | 42.0-45.0 / 44.0 | 53.5 - 54.5 | 63.0-64.5 / 64.0 | 49.0-50.5 / | 45.5-47.0 / 46.8 |
| 100 Ft. Crew Side | 40.0-55.0 / 48.0*** | 64.0 - 66.0 | 71.0-73.0 / 72.5 | 54.0-56.0 / 55.0** | 55.0-57.0 / 56.0 |
| 150 Ft. Crew Side | 41.0-50.0 / 48.0 | 59.0 - 61.0 | 67.0-68.5 / 68.0 | 51.5-53.5 / 53.0 | 51.0-55.0 / 54.0 |
| 100 Ft. Rearward | 40.0-45.0 / 44.0 | 57.0 - 58.5 | 67.0-68.0 / 67.5 | 47.5-49.0 / 48.5 | 49.5-51.0 / 50.5 |
| 150 Ft. Rearward | 38.0-44.0 / 42.0 | 54.0 - 55.0 | 64.0-65.0 / 64.5 | 44.5-45.5 / 45.0 | 47.0-48.5 / 48.0 |
| 100 Ft. Engineer Side | 42.0-46.0 / 45.0 | 62.0 - 63.0 | 72.0-73.0 / 72.5 | 49.5-51.0 / 50.5 | 50.5-52.0 / 51.8 |
| 150 Ft. Engineer Side | 42.0-45.0 / 44.0 | 57.5 - 58.5 | 67.5-68.5 / 68.0 | 46.0-47.5 / 47.0 | 48.0-49.0 / 48.5 |

* APU Unloaded - Can barely hear APU running. Distant background noises obvious on meter in fast response. Higher levels at 150 feet due to distant train passing.

** APU Unloaded - Typically 54.0 to 56.0 dBA with spitter. Occasionally louder spits will peak at 60.0 dBA.

*** Spitter valve causing large fluctuations.

NOTE:

At the 40 to 60 decibel range, distant background noises have a large effect on the readings. The readings were taken at times to minimize the background noises. Also, on the crew side, the spitter valve noises resulted in large ranges. In all of the positions, except forward of the locomotive, the APU unit could be heard running softly with the spitter valve contributing mainly to the peaks. The air compressor running was the main sound heard during the APU loaded phase.

# Maryland Department of the Environment
# CSXT Locomotive Noise Report
# CSXT Rail Yard
# Cumberland, MD
# December 2, 2003

Introduction:

As part of a cooperative effort with the Maryland Energy Administration and CSXT, the Maryland Department of the Environment (MDE) was invited to conduct noise measurements of a diesel locomotive on December 2, 2003. The measurements were taken to evaluate the noise levels associated with the primary engine on a yard locomotive and to then take measurements of the locomotive with the main engine turned off and the auxiliary power unit (APU) in operation.

The primary intent of the APU installation was to reduce fuel consumption and thereby reduce air emissions. As an ancillary benefit, reduced noise levels were anticipated. The noise measurements undertaken were to document the benefit in reduced noise emission.

Methods:

The intent was to conduct the noise readings in an environment where extraneous noises would be at a minimum. It was suggested that CSXT's Cumberland (locomotive) maintenance facility would provide a good location for the testing, especially in consideration that there were locomotives with APUs available at that location.

Low wind velocity was also considered, but that was not easily controlled. The day selected was relatively windy, with wind speeds estimated to exceed 15 MPH. To the benefit of the test, the winds were parallel to the track and locomotive so there was a minimum of variation between left and right side conditions. Air temperatures were estimated to be in the 30s during the testing.

A GEL recording noise meter was used in the testing. These instruments are utilized in MDE's normal compliance work and are calibrated as necessary for enforcement purposes. Thus, the readings are believed to be of the highest quality.

Measurements were taken on each side of the locomotive with first, the main engine only running, and then with the main engine shut off and the APU running. All four measurements were taken at a measured 50 feet from the side of the locomotive.

Results and Findings:

First measurement — left side main engine only running:

A steady noise level of approximately 75 dBA was measured throughout the two-minute recording period. The range between the maximum (77.4 dBA) and the Ldn9O (75 dBA) indicated a highly stable noise source. The “C” weighted measurement for this period was between 99.3 dBA and 100.8 dBA. The “C” weighting provides a more absolute measurement, but does not reduce the measurement as does the human ear, which is reflected more closely in the “A” weighted (dBA) measurements.

Second Measurement – right side main engine only running:

A similar steady noise was measured on the right side with a range estimated to be between 74 dB and 77 dB. The first half of the recording period was interrupted by a stuck “spit” valve that elevated the noise levels to as high as 83.9 dB. This side of the locomotive also faced other noise sources on adjacent sidings. Despite there being other noise sources, the similarity in the readings from the left side indicates that there is little difference in noise levels.

Third measurement — right side with main engine off, auxiliary power unit running:

About midway through the two-minute recording, the spit value again stuck open elevating the readings to a maximum of about 82 dBA. The base level was much more variable than when the main engines were operating. This indicated that external noise sources from more distant locations were dominating the readings. Personal perception was that the noise from the APU was not noticeable in the general background. Base level noise was at 62.4 dBA. Therefore, the APU, which was not discernable to the observers, must have been operating at a level of less than 62.4 dBA.

Fourth measurement — left side with main engine off, auxiliary power unit running:

Spikes in the noise readings as depicted in the graphs were from external sources within the rail yard, not from the locomotive of interest. Base level readings were between 61.3 dBA and 63.1 dBA. These levels were very similar to those from the right side. Therefore, as with the other side, the indications are that the APU was operating at less than the 61.3 dBA.

Conclusions:

The noise level of the APU could not be ascertained in the relatively noisy confines of the rail yard. Definitive measurements would require a location that has a much lower background noise level. Based on the general observations at the Cumberland rail yard, a remote trackside location, possibly on an isolated siding would be the preferred location for any additional testing.

**All that can be stated with certainty is that an idling locomotive could be expected to generate a noise level of 75 to 76 dBA at a distance of 50 feet. The APUs have a noise level of less than 61.3 dBA at a distance of 50 feet, with the actual level estimated to be probably less than 55 dBA.**

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 13,787.72 | 13,996.85 | 14,361.63 | 13,548.05 | 9,266.40 | 8,339.60 | 7,446.38 | 9,279.83 | 7,938.47 | 11,435.10 | 12,593.60 | 15,728.67 |
| | Idle 2 - Main Eng Off; APU On | 4,997.85 | 4,807.53 | 3,980.42 | 2,331.77 | 899.62 | 1,043.70 | 1,205.63 | 997.65 | 1,780.58 | 2,433.70 | 3,816.43 | 5,967.97 |
| | Idle 3 - Main Eng Off; APU Off | 5,798.23 | 6,716.33 | 9,244.82 | 10,720.13 | 16,431.95 | 17,092.87 | 19,440.68 | 19,654.28 | 18,795.37 | 18,239.50 | 13,330.60 | 6,875.08 |
| | Idle 4 - Main Eng Idle; APU On | 3,167.63 | 2,222.75 | 1,137.98 | 578.50 | 278.73 | 218.78 | 232.85 | 278.90 | 406.35 | 414.95 | 763.35 | 1,827.85 |
| | Main Eng Wkg; APU On | 1,424.92 | 1,006.07 | 482.33 | 246.22 | 132.95 | 101.37 | 90.63 | 119.02 | 303.57 | 196.67 | 359.23 | 739.22 |
| | Main Eng Wkg; APU Off | 4,400.38 | 4,888.10 | 5,977.10 | 5,655.07 | 5,060.48 | 5,388.73 | 4,556.07 | 5,584.78 | 4,918.12 | 6,063.50 | 5,767.92 | 5,173.22 |
| | Total Hours | 33,576.73 | 33,637.63 | 35,184.28 | 33,079.73 | 32,070.13 | 32,185.05 | 32,972.25 | 35,914.47 | 34,142.45 | 38,783.42 | 36,631.13 | 36,312.00 |
| | Gal Fuel Saved | 37,582.81 | 41,272.69 | 49,389.71 | 50,211.16 | 68,517.92 | 71,680.20 | 81,598.47 | 81,732.02 | 80,803.56 | 80,738.63 | 65,446.40 | 46,024.27 |
| | Tons $NO_X$ Reduced | 15.990 | 17.131 | 20.336 | 19.811 | 26.899 | 28.875 | 32.877 | 32.804 | 32.572 | 31.942 | 26.226 | 19.184 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 6,723.53 | 7,333.52 | 7,111.57 | 6,949.83 | 4,284.97 | 3,961.87 | 3,787.78 | 5,676.35 | 5,091.08 | 6,799.30 | 9,106.62 | 11,178.62 |
| | Idle 2 - Main Eng Off; APU On | 2,843.45 | 2,117.88 | 1,898.03 | 1,300.70 | 515.45 | 415.15 | 666.48 | 689.77 | 1,210.80 | 1,368.95 | 3,004.40 | 4,511.15 |
| | Idle 3 - Main Eng Off; APU Off | 3,315.52 | 2,961.30 | 4,630.35 | 5,039.63 | 8,114.68 | 8,212.27 | 10,580.07 | 13,199.62 | 13,311.52 | 12,234.27 | 10,470.95 | 5,134.45 |
| | Idle 4 - Main Eng Idle; APU On | 1,857.15 | 992.93 | 475.90 | 256.38 | 142.23 | 128.40 | 157.72 | 137.97 | 280.18 | 323.83 | 562.68 | 1,387.60 |
| | Total Hours | 17,198.88 | 16,028.85 | 17,178.28 | 16,014.62 | 15,262.63 | 14,830.70 | 17,210.05 | 22,941.18 | 23,104.55 | 24,776.93 | 27,149.50 | 26,175.50 |
| | Gal Fuel Saved | 21,411.26 | 18,182.71 | 24,485.02 | 24,293.17 | 34,069.36 | 34,136.79 | 44,420.80 | 54,989.71 | 57,066.45 | 53,251.62 | 51,454.38 | 34,535.86 |
| | Tons $NO_X$ Reduced | 9.113 | 7.552 | 9.996 | 9.943 | 13.475 | 13.990 | 18.000 | 22.289 | 23.585 | 21.107 | 20.512 | 14.507 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 12,512.15 | 12,878.55 | 12,164.53 | 11,320.82 | 7,002.12 | 6,919.28 | 6,704.50 | 8,833.87 | 7,495.92 | 10,468.90 | 11,958.08 | 15,015.67 |
| | Idle 2 - Main Eng Off; APU On | 4,498.32 | 4,214.77 | 3,592.97 | 2,129.08 | 739.58 | 930.60 | 1,133.95 | 837.35 | 1,606.37 | 2,270.03 | 3,693.90 | 5,754.53 |
| | Idle 3 - Main Eng Off; APU Off | 4,686.85 | 5,665.12 | 7,847.32 | 8,596.10 | 13,891.83 | 15,009.77 | 18,420.25 | 18,987.87 | 18,188.07 | 17,941.15 | 12,699.33 | 6,666.17 |
| | Idle 4 - Main Eng Idle; APU On | 2,907.22 | 2,007.23 | 985.77 | 347.13 | 167.87 | 185.93 | 209.87 | 244.07 | 388.15 | 392.20 | 738.67 | 1,793.62 |
| | Total Hours | 29,527.85 | 29,991.82 | 30,163.62 | 27,090.05 | 25,615.58 | 27,148.55 | 30,382.97 | 34,227.08 | 32,622.38 | 37,083.15 | 34,743.32 | 34,963.52 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 3,028.47 | 3,327.43 | 3,503.17 | 3,943.62 | 2,039.12 | 1,636.62 | 1,676.97 | 1,736.30 | 2,026.92 | 2,512.22 | 2,965.57 | 4,182.20 |
| | Idle 2 - Main Eng Off; APU On | 928.63 | 1,110.25 | 1,000.73 | 750.75 | 289.35 | 249.90 | 414.95 | 244.05 | 410.48 | 513.97 | 869.22 | 987.22 |
| | Idle 3 - Main Eng Off; APU Off | 462.45 | 554.83 | 1,212.68 | 1,931.40 | 3,057.97 | 3,776.85 | 3,929.40 | 4,174.88 | 3,959.28 | 3,608.77 | 2,648.68 | 905.23 |
| | Idle 4 - Main Eng Idle; APU On | 697.27 | 632.22 | 435.02 | 51.23 | 44.12 | 22.65 | 41.75 | 146.07 | 51.88 | 71.75 | 263.13 | 240.28 |
| | Main Eng Wkg; APU On | 368.53 | 228.28 | 232.47 | 17.73 | 20.07 | 6.50 | 12.07 | 84.02 | 36.25 | 21.73 | 129.52 | 88.87 |
| | Main Eng Wkg; APU Off | 835.00 | 1,038.27 | 1,439.77 | 1,441.27 | 1,051.13 | 1,163.57 | 1,016.38 | 1,018.60 | 1,219.18 | 1,352.22 | 1,195.02 | 1,156.20 |
| | Total Hours | 6,320.35 | 6,891.28 | 7,823.83 | 8,136.00 | 6,501.75 | 6,856.08 | 7,091.52 | 7,403.92 | 7,704.00 | 8,080.65 | 8,071.13 | 7,560.00 |
| | Gal Fuel Saved | 4,448.97 | 5,465.00 | 7,868.74 | 10,178.44 | 13,160.51 | 15,920.03 | 17,064.10 | 17,408.11 | 17,161.88 | 16,089.13 | 13,294.81 | 6,727.73 |
| | Tons $NO_X$ Reduced | 2.474 | 2.974 | 4.005 | 4.908 | 6.164 | 7.423 | 7.999 | 8.141 | 8.046 | 7.582 | 6.433 | 3.424 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 919.78 | 1,212.78 | 1,800.62 | 1,752.72 | 486.22 | 661.78 | 611.12 | 743.37 | 965.77 | 1,225.55 | 1,631.15 | 2,211.62 |
| | Idle 2 - Main Eng Off; APU On | 507.60 | 576.90 | 431.42 | 475.95 | 204.80 | 118.58 | 356.53 | 115.53 | 257.10 | 237.08 | 746.17 | 625.02 |
| | Idle 3 - Main Eng Off; APU Off | 177.18 | 298.30 | 518.77 | 794.28 | 945.75 | 1,121.72 | 1,235.95 | 2,250.23 | 2,175.02 | 2,169.88 | 1,612.85 | 612.58 |
| | Idle 4 - Main Eng Idle; APU On | 223.23 | 147.45 | 203.58 | 26.58 | 28.48 | 8.23 | 16.80 | 60.82 | 26.03 | 50.88 | 155.68 | 149.52 |
| | Total Hours | 2,170.52 | 2,707.10 | 3,658.07 | 3,671.50 | 1,956.62 | 2,415.47 | 2,603.52 | 3,691.72 | 3,986.10 | 4,377.73 | 4,832.22 | 4,164.05 |
| | Gal Fuel Saved | 2,237.78 | 3,003.90 | 3,365.12 | 4,736.20 | 4,442.17 | 4,874.20 | 6,113.83 | 9,342.09 | 9,534.24 | 9,430.32 | 8,817.40 | 4,419.07 |
| | Tons $NO_X$ Saved | 1.222 | 1.574 | 1.718 | 2.317 | 2.112 | 2.284 | 2.920 | 4.360 | 4.477 | 4.430 | 4.305 | 2.241 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,843.42 | 3,220.05 | 3,198.95 | 3,201.87 | 1,436.65 | 1,566.28 | 1,472.00 | 1,678.80 | 1,917.72 | 2,497.90 | 2,951.77 | 3,993.32 |
| | Idle 2 - Main Eng Off; APU On | 865.75 | 1,109.83 | 826.02 | 627.33 | 229.93 | 248.10 | 402.62 | 136.12 | 369.12 | 504.37 | 869.22 | 949.65 |
| | Idle 3 - Main Eng Off; APU Off | 323.47 | 540.03 | 987.70 | 1,472.48 | 2,490.83 | 3,760.93 | 3,804.10 | 4,032.63 | 3,739.93 | 3,603.25 | 2,602.47 | 900.70 |
| | Idle 4 - Main Eng Idle; APU On | 680.02 | 628.55 | 365.33 | 38.47 | 34.10 | 22.18 | 36.30 | 142.12 | 51.18 | 71.72 | 262.93 | 238.97 |
| | Total Hours | 5,853.45 | 6,740.17 | 6,811.27 | 6,588.45 | 4,936.95 | 6,711.15 | 6,627.57 | 7,068.33 | 7,296.32 | 8,042.15 | 8,007.67 | 7,285.42 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 6,402.63 | 5,926.68 | 5,800.77 | 5,019.83 | 3,651.92 | 3,601.28 | 3,495.70 | 4,216.15 | 3,568.70 | 5,295.58 | 5,172.75 | 6,378.63 |
| | Idle 2 - Main Eng Off; APU On | 2,157.55 | 2,210.82 | 1,697.95 | 642.30 | 286.43 | 241.60 | 361.38 | 295.20 | 670.65 | 895.23 | 1,484.67 | 2,343.83 |
| | Idle 3 - Main Eng Off; APU Off | 2,978.42 | 3,256.87 | 4,283.13 | 4,668.33 | 7,570.92 | 7,404.73 | 8,545.35 | 9,110.30 | 8,866.15 | 8,328.42 | 5,723.23 | 2,774.52 |
| | Idle 4 - Main Eng Idle; APU On | 988.57 | 851.92 | 423.32 | 366.97 | 142.95 | 34.62 | 46.42 | 76.20 | 68.10 | 104.80 | 187.25 | 688.15 |
| | Main Eng Wkg; APU On | 392.65 | 437.87 | 141.70 | 163.02 | 35.82 | 11.00 | 13.12 | 15.00 | 26.05 | 52.50 | 91.20 | 245.23 |
| | Main Eng Wkg; APU Off | 1,808.57 | 2,046.07 | 2,263.23 | 1,923.93 | 1,990.17 | 2,107.73 | 1,796.08 | 2,584.30 | 1,979.72 | 2,843.47 | 2,628.90 | 2,521.63 |
| | Total Hours | 14,728.38 | 14,730.22 | 14,610.10 | 12,784.38 | 13,678.20 | 13,400.97 | 14,258.05 | 16,297.15 | 15,179.37 | 17,520.00 | 15,288.00 | 14,952.00 |
| | Gal Fuel Saved | 18,385.63 | 19,769.70 | 22,469.14 | 20,550.18 | 31,134.84 | 30,395.85 | 35,347.18 | 37,367.22 | 37,640.42 | 36,208.58 | 27,684.67 | 18,393.46 |
| | Tons NOX Reduced | 7.876 | 8.477 | 9.443 | 8.137 | 12.164 | 12.320 | 14.380 | 15.010 | 15.197 | 14.450 | 11.111 | 7.909 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 3,144.22 | 2,495.62 | 1,543.90 | 1,619.90 | 1,479.45 | 1,623.78 | 1,614.58 | 2,377.13 | 2,371.75 | 3,124.90 | 4,031.12 | 4,517.32 |
| | Idle 2 - Main Eng Off; APU On | 1,045.78 | 458.50 | 368.10 | 207.55 | 94.35 | 51.93 | 86.05 | 166.58 | 427.37 | 596.95 | 1,076.17 | 1,768.85 |
| | Idle 3 - Main Eng Off; APU Off | 1,701.30 | 766.37 | 1,250.23 | 1,453.72 | 2,915.80 | 3,569.28 | 4,319.98 | 6,015.92 | 6,849.80 | 5,120.93 | 4,608.08 | 2,043.53 |
| | Idle 4 - Main Eng Idle; APU On | 439.93 | 277.10 | 70.37 | 106.57 | 31.67 | 13.45 | 20.40 | 23.67 | 46.42 | 74.62 | 136.55 | 510.88 |
| | Total Hours | 7,216.65 | 4,768.50 | 4,010.90 | 3,992.40 | 5,285.90 | 6,030.17 | 6,820.32 | 10,052.33 | 11,105.35 | 10,876.43 | 11,972.05 | 10,895.57 |
| | Gal Fuel Saved | 9,969.13 | 4,394.85 | 6,172.55 | 6,429.58 | 11,954.15 | 14,440.01 | 17,551.11 | 24,599.49 | 28,783.65 | 22,410.84 | 21,905.08 | 13,685.64 |
| | Tons NOX Reduced | 3.903 | 1.831 | 2.554 | 2.662 | 4.702 | 5.896 | 7.109 | 9.918 | 11.813 | 8.867 | 8.763 | 5.858 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 6,060.20 | 5,098.95 | 4,164.45 | 3,809.52 | 2,498.82 | 3,055.02 | 3,278.55 | 4,100.70 | 3,356.50 | 4,770.92 | 5,029.85 | 5,971.12 |
| | Idle 2 - Main Eng Off; APU On | 1,866.73 | 1,743.72 | 1,512.90 | 603.23 | 218.37 | 215.87 | 324.60 | 279.10 | 635.93 | 850.18 | 1,439.02 | 2,183.83 |
| | Idle 3 - Main Eng Off; APU Off | 2,469.50 | 2,426.72 | 3,291.47 | 3,539.67 | 5,979.50 | 6,624.70 | 8,096.70 | 8,826.87 | 8,679.62 | 8,238.15 | 5,378.68 | 2,636.85 |
| | Idle 4 - Main Eng Idle; APU On | 829.78 | 698.48 | 370.20 | 159.40 | 46.23 | 30.72 | 38.70 | 46.72 | 62.83 | 98.40 | 183.25 | 671.07 |
| | Total Hours | 13,143.33 | 11,965.93 | 11,257.18 | 9,570.40 | 10,098.17 | 11,528.72 | 13,379.52 | 15,787.80 | 14,681.82 | 16,721.07 | 14,706.15 | 14,124.42 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.48 | 2,255.55 | 2,246.38 | 2,364.23 | 1,538.20 | 1,125.75 | 1,139.60 | 1,498.87 | 1,047.82 | 1,621.03 | 1,657.20 | 1,745.72 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 299.90 | 205.18 | 109.15 | 269.83 | 178.00 | 495.22 | 786.50 |
| | Idle 3 - Main Eng Off; APU Off | 943.98 | 907.80 | 1,414.80 | 1,546.42 | 2,445.95 | 2,455.00 | 2,994.68 | 2,792.18 | 2,466.40 | 2,389.28 | 1,804.75 | 1,406.33 |
| | Idle 4 - Main Eng Idle; APU On | 548.08 | 129.50 | 124.78 | 93.43 | 25.65 | 103.32 | 101.93 | 25.55 | 129.75 | 49.53 | 173.32 | 323.75 |
| | Main Eng Wkg; APU On | 211.15 | 43.30 | 54.73 | 36.77 | 7.03 | 36.12 | 49.02 | 5.83 | 67.18 | 13.53 | 47.95 | 114.63 |
| | Main Eng Wkg; APU Off | 554.05 | 744.15 | 805.18 | 762.22 | 801.00 | 587.92 | 628.27 | 752.42 | 603.02 | 932.62 | 693.57 | 639.07 |
| | Total Hours | 4,704.00 | 4,480.13 | 5,160.00 | 4,944.00 | 4,848.00 | 4,608.00 | 5,118.68 | 5,184.00 | 4,584.00 | 5,184.00 | 4,872.00 | 5,016.00 |
| | Gal Fuel Saved | 5,322.90 | 4,867.41 | 7,277.38 | 6,588.62 | 9,866.18 | 10,742.99 | 12,588.78 | 11,512.93 | 10,670.82 | 10,113.05 | 8,741.25 | 8,009.70 |
| | Tons $NO_X$ Reduced | 2.750 | 2.385 | 3.526 | 3.104 | 4.571 | 5.066 | 5.894 | 5.352 | 5.032 | 4.730 | 4.210 | 3.986 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.08 | 2,210.85 | 2,237.78 | 2,338.03 | 1,482.55 | 938.78 | 1,096.70 | 1,480.28 | 1,045.85 | 1,591.30 | 1,401.22 | 1,628.12 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 106.47 | 57.20 | 109.15 | 269.62 | 177.90 | 470.63 | 730.72 |
| | Idle 3 - Main Eng Off; APU Off | 934.62 | 891.05 | 1,414.80 | 1,538.72 | 2,323.98 | 2,149.93 | 2,906.62 | 2,779.12 | 2,462.00 | 2,261.40 | 1,602.72 | 1,298.65 |
| | Idle 4 - Main Eng Idle; APU On | 545.65 | 129.50 | 124.78 | 93.43 | 25.65 | 89.97 | 91.82 | 25.55 | 129.75 | 48.88 | 173.32 | 316.17 |
| | Total Hours | 4,691.80 | 4,406.00 | 5,132.85 | 4,874.65 | 4,588.30 | 3,817.42 | 4,795.02 | 5,138.45 | 4,572.75 | 4,992.67 | 4,325.57 | 4,666.88 |
| | Gal Fuel Saved | 5,287.10 | 4,800.41 | 7,277.38 | 6,557.82 | 9,378.31 | 8,890.85 | 11,753.04 | 11,460.66 | 10,652.50 | 9,601.63 | 7,851.65 | 7,399.30 |
| | Tons $NO_X$ Reduced | 2.732 | 2.354 | 3.526 | 3.089 | 4.346 | 4.157 | 5.467 | 5.328 | 5.023 | 4.493 | 3.793 | 3.688 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.08 | 2,255.55 | 2,246.38 | 2,364.23 | 1,536.60 | 1,006.12 | 1,139.60 | 1,498.62 | 1,047.52 | 1,621.03 | 1,617.13 | 1,718.22 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 294.12 | 205.18 | 109.15 | 269.83 | 178.00 | 495.22 | 782.10 |
| | Idle 3 - Main Eng Off; APU Off | 934.62 | 907.80 | 1,414.80 | 1,546.42 | 2,424.97 | 2,245.02 | 2,994.68 | 2,792.18 | 2,466.40 | 2,389.28 | 1,780.08 | 1,391.38 |
| | Idle 4 - Main Eng Idle; APU On | 545.65 | 129.50 | 124.78 | 93.43 | 25.65 | 102.13 | 101.93 | 25.55 | 129.75 | 49.53 | 173.32 | 323.72 |
| | Total Hours | 4,691.80 | 4,480.13 | 5,160.00 | 4,944.00 | 4,820.93 | 4,250.20 | 5,118.68 | 5,183.30 | 4,583.70 | 5,184.00 | 4,771.53 | 4,963.17 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,490.13 | 2,487.18 | 2,811.32 | 2,220.37 | 2,037.17 | 1,975.95 | 1,134.12 | 1,828.52 | 1,295.03 | 2,006.27 | 2,798.08 | 3,422.12 |
| | Idle 2 - Main Eng Off; APU On | 1,331.42 | 1,086.63 | 767.62 | 797.78 | 293.67 | 252.30 | 224.12 | 349.25 | 429.62 | 846.50 | 967.33 | 1,850.42 |
| | Idle 3 - Main Eng Off; APU Off | 1,413.38 | 1,996.83 | 2,334.20 | 2,573.98 | 3,357.12 | 3,456.28 | 3,971.25 | 3,576.92 | 3,503.53 | 3,913.03 | 3,153.93 | 1,789.00 |
| | Idle 4 - Main Eng Idle; APU On | 933.72 | 609.12 | 154.87 | 66.87 | 66.02 | 58.20 | 42.75 | 31.08 | 156.62 | 188.87 | 139.65 | 575.67 |
| | Main Eng Wkg; APU On | 452.58 | 296.62 | 53.43 | 28.70 | 70.03 | 47.75 | 16.43 | 14.17 | 174.08 | 108.90 | 90.57 | 290.48 |
| | Main Eng Wkg; APU Off | 1,202.77 | 1,059.62 | 1,468.92 | 1,527.65 | 1,218.18 | 1,529.52 | 1,115.33 | 1,229.47 | 1,116.20 | 935.20 | 1,250.43 | 856.32 |
| | Total Hours | 7,824.00 | 7,536.00 | 7,590.35 | 7,215.35 | 7,042.18 | 7,320.00 | 6,504.00 | 7,029.40 | 6,675.08 | 7,998.77 | 8,400.00 | 8,784.00 |
| | Gal Fuel Saved | 9,425.32 | 11,170.58 | 11,774.44 | 12,893.92 | 14,356.39 | 14,621.33 | 16,598.40 | 15,443.76 | 15,330.44 | 18,327.87 | 15,725.68 | 12,893.37 |
| | Tons $NO_X$ Reduced | 2.889 | 3.296 | 3.362 | 3.662 | 3.999 | 4.066 | 4.604 | 4.301 | 4.297 | 5.180 | 4.473 | 3.865 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 793.45 | 1,414.27 | 1,529.27 | 1,239.18 | 836.75 | 737.52 | 465.38 | 1,075.57 | 707.72 | 857.55 | 2,043.13 | 2,821.57 |
| | Idle 2 - Main Eng Off; APU On | 709.82 | 682.65 | 584.40 | 476.27 | 186.13 | 138.17 | 166.70 | 298.50 | 256.72 | 357.02 | 711.43 | 1,386.57 |
| | Idle 3 - Main Eng Off; APU Off | 502.42 | 1,005.58 | 1,446.55 | 1,252.92 | 1,929.15 | 1,371.33 | 2,117.52 | 2,154.35 | 1,824.70 | 2,682.05 | 2,647.30 | 1,179.68 |
| | Idle 4 - Main Eng Idle; APU On | 648.33 | 438.88 | 77.17 | 29.80 | 56.43 | 16.75 | 28.70 | 27.93 | 77.98 | 149.45 | 97.13 | 411.03 |
| | Total Hours | 3,119.92 | 4,147.25 | 4,376.47 | 3,476.07 | 3,431.82 | 2,567.65 | 2,991.20 | 4,058.68 | 3,440.35 | 4,530.10 | 6,019.67 | 6,449.00 |
| | Gal Fuel Saved | 3,917.24 | 5,983.56 | 7,669.97 | 6,569.57 | 8,294.73 | 5,931.73 | 9,002.82 | 9,587.47 | 8,096.06 | 11,808.83 | 12,880.26 | 9,031.85 |
| | Tons $NO_X$ Reduced | 1.255 | 1.793 | 2.198 | 1.874 | 2.315 | 1.653 | 2.504 | 2.682 | 2.272 | 3.317 | 3.651 | 2.720 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,742.45 | 2,304.00 | 2,554.75 | 1,945.20 | 1,530.05 | 1,291.87 | 814.35 | 1,555.75 | 1,174.18 | 1,579.05 | 2,359.33 | 3,333.02 |
| | Idle 2 - Main Eng Off; APU On | 1,185.58 | 961.38 | 739.93 | 757.58 | 261.12 | 172.52 | 201.55 | 312.98 | 331.48 | 737.48 | 890.45 | 1,838.95 |
| | Idle 3 - Main Eng Off; APU Off | 959.27 | 1,790.57 | 2,153.35 | 2,037.53 | 2,996.53 | 2,379.12 | 3,524.77 | 3,336.18 | 3,302.12 | 3,710.47 | 2,938.10 | 1,737.23 |
| | Idle 4 - Main Eng Idle; APU On | 851.77 | 550.70 | 125.45 | 55.83 | 61.88 | 30.90 | 32.93 | 29.68 | 144.38 | 172.55 | 119.17 | 559.87 |
| | Total Hours | 5,839.27 | 6,805.58 | 6,935.17 | 5,987.20 | 5,759.53 | 4,658.48 | 5,257.20 | 6,187.65 | 6,060.55 | 7,135.93 | 7,257.97 | 8,590.52 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 38.90% | 41.54% | 46.04% | 48.02% | 64.49% | 67.94% | 72.89% | 68.36% | 71.15% | 63.56% | 56.21% | 42.25% |
| | Idle 1 - Main Eng Idle; APU Off | 255.33 | 254.49 | 256.46 | 255.62 | 181.69 | 163.52 | 151.97 | 178.46 | 149.78 | 207.91 | 228.97 | 291.27 |
| | Idle 2 - Main Eng Off; APU On | 92.55 | 87.41 | 71.08 | 44.00 | 17.64 | 20.46 | 24.60 | 19.19 | 33.60 | 44.25 | 69.39 | 110.52 |
| | Idle 3 - Main Eng Off; APU Off | 107.37 | 122.12 | 165.09 | 202.27 | 322.20 | 335.15 | 396.75 | 377.97 | 354.63 | 331.63 | 242.37 | 127.32 |
| | Idle 4 - Main Eng Idle; APU On | 58.66 | 40.41 | 20.32 | 10.92 | 5.47 | 4.29 | 4.75 | 5.36 | 7.67 | 7.54 | 13.88 | 33.85 |
| | Main Eng Wkg; APU On | 26.39 | 18.29 | 8.61 | 4.65 | 2.61 | 1.99 | 1.85 | 2.29 | 5.73 | 3.58 | 6.53 | 13.69 |
| | Main Eng Wkg; APU Off | 81.49 | 88.87 | 106.73 | 106.70 | 99.23 | 105.66 | 92.98 | 107.40 | 92.79 | 110.25 | 104.87 | 95.80 |
| | Total Hours | 621.79 | 611.59 | 628.29 | 624.15 | 628.83 | 631.08 | 672.90 | 690.66 | 644.20 | 705.15 | 666.02 | 672.44 |
| | Gal Fuel Saved | 695.98 | 750.41 | 881.96 | 947.38 | 1343.49 | 1405.49 | 1665.27 | 1571.77 | 1524.60 | 1467.98 | 1189.93 | 852.30 |
| | Tons $NO_X$ Reduced | 0.296 | 0.311 | 0.363 | 0.374 | 0.527 | 0.566 | 0.671 | 0.631 | 0.615 | 0.581 | 0.477 | 0.355 |
| MD Only | % Idle Management Effectiveness | 41.79% | 37.89% | 46.25% | 46.80% | 66.09% | 67.84% | 74.03% | 70.49% | 73.00% | 65.63% | 58.22% | 43.43% |
| | Idle 1 - Main Eng Idle; APU Off | 156.36 | 156.03 | 158.03 | 151.08 | 97.39 | 99.05 | 84.17 | 118.26 | 96.06 | 128.29 | 168.64 | 214.97 |
| | Idle 2 - Main Eng Off; APU On | 66.13 | 45.06 | 42.18 | 28.28 | 11.71 | 10.38 | 14.81 | 14.37 | 22.85 | 25.83 | 55.64 | 86.75 |
| | Idle 3 - Main Eng Off; APU Off | 77.11 | 63.01 | 102.90 | 109.56 | 184.42 | 205.31 | 235.11 | 274.99 | 251.16 | 230.84 | 193.91 | 98.74 |
| | Idle 4 - Main Eng Idle; APU On | 43.19 | 21.13 | 10.58 | 5.57 | 3.23 | 3.21 | 3.50 | 2.87 | 5.29 | 6.11 | 10.42 | 26.68 |
| | Total Hours | 399.97 | 341.04 | 381.74 | 348.14 | 346.88 | 370.77 | 382.45 | 477.94 | 435.93 | 467.49 | 502.77 | 503.37 |
| | Gal Fuel Saved | 497.94 | 386.87 | 544.11 | 528.11 | 774.30 | 853.42 | 987.13 | 1145.62 | 1076.73 | 1004.75 | 952.86 | 664.15 |
| | Tons $NO_X$ Reduced | 0.212 | 0.161 | 0.222 | 0.216 | 0.306 | 0.350 | 0.400 | 0.464 | 0.445 | 0.398 | 0.380 | 0.279 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 37.33% | 39.89% | 46.52% | 47.89% | 67.11% | 69.17% | 73.88% | 68.59% | 71.52% | 65.05% | 56.35% | 42.49% |
| | Idle 1 - Main Eng Idle; APU Off | 245.34 | 242.99 | 233.93 | 231.04 | 142.90 | 138.39 | 136.83 | 169.88 | 141.43 | 190.34 | 217.42 | 283.31 |
| | Idle 2 - Main Eng Off; APU On | 88.20 | 79.52 | 69.10 | 43.45 | 15.09 | 18.61 | 23.14 | 16.10 | 30.31 | 41.27 | 67.16 | 108.58 |
| | Idle 3 - Main Eng Off; APU Off | 91.90 | 106.89 | 150.91 | 175.43 | 283.51 | 300.20 | 375.92 | 365.15 | 343.17 | 326.20 | 230.90 | 125.78 |
| | Idle 4 - Main Eng Idle; APU On | 57.00 | 37.87 | 18.96 | 7.08 | 3.43 | 3.72 | 4.28 | 4.69 | 7.32 | 7.13 | 13.43 | 33.84 |
| | Total Hours | 578.98 | 565.88 | 580.07 | 552.86 | 522.77 | 542.97 | 620.06 | 658.21 | 615.52 | 674.24 | 631.70 | 659.69 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 27.19% | 29.60% | 35.98% | 40.17% | 61.64% | 70.82% | 71.65% | 70.13% | 67.76% | 61.47% | 52.14% | 29.97% |
| | Idle 1 - Main Eng Idle; APU Off | 275.32 | 277.29 | 269.47 | 303.36 | 185.37 | 148.78 | 152.45 | 144.69 | 184.27 | 209.35 | 247.13 | 348.52 |
| | Idle 2 - Main Eng Off; APU On | 84.42 | 92.52 | 76.98 | 57.75 | 26.30 | 22.72 | 37.72 | 20.34 | 37.32 | 42.83 | 72.43 | 82.27 |
| | Idle 3 - Main Eng Off; APU Off | 42.04 | 46.24 | 93.28 | 148.57 | 278.00 | 343.35 | 357.22 | 347.91 | 359.93 | 300.73 | 220.72 | 75.44 |
| | Idle 4 - Main Eng Idle; APU On | 63.39 | 52.68 | 33.46 | 3.94 | 4.01 | 2.06 | 3.80 | 12.17 | 4.72 | 5.98 | 21.93 | 20.02 |
| | Main Eng Wkg; APU On | 33.50 | 19.02 | 17.88 | 1.36 | 1.82 | 0.59 | 1.10 | 7.00 | 3.30 | 1.81 | 10.79 | 7.41 |
| | Main Eng Wkg; APU Off | 75.91 | 86.52 | 110.75 | 110.87 | 95.56 | 105.78 | 92.40 | 84.88 | 110.83 | 112.68 | 99.58 | 96.35 |
| | Total Hours | 574.58 | 574.27 | 601.83 | 625.85 | 591.07 | 623.28 | 644.68 | 616.99 | 700.36 | 673.39 | 672.59 | 630.00 |
| | Gal Fuel Saved | 404.45 | 455.42 | 605.29 | 782.96 | 1,196.41 | 1,447.28 | 1,551.28 | 1,450.68 | 1,560.17 | 1,340.76 | 1,107.90 | 560.64 |
| | Tons $NO_X$ Reduced | 0.225 | 0.248 | 0.308 | 0.378 | 0.560 | 0.675 | 0.727 | 0.678 | 0.731 | 0.632 | 0.536 | 0.285 |
| MD Only | % Idle Management Effectiveness | 37.46% | 39.15% | 32.16% | 41.65% | 69.09% | 64.93% | 71.72% | 74.63% | 71.03% | 65.35% | 56.90% | 34.39% |
| | Idle 1 - Main Eng Idle; APU Off | 102.20 | 110.25 | 138.51 | 175.27 | 48.62 | 66.18 | 76.39 | 74.34 | 87.80 | 102.13 | 135.93 | 184.30 |
| | Idle 2 - Main Eng Off; APU On | 56.40 | 52.45 | 33.19 | 47.60 | 20.48 | 11.86 | 44.57 | 11.55 | 23.37 | 19.76 | 62.18 | 52.08 |
| | Idle 3 - Main Eng Off; APU Off | 19.69 | 27.12 | 39.91 | 79.43 | 94.58 | 112.17 | 154.49 | 225.02 | 197.73 | 180.82 | 134.40 | 51.05 |
| | Idle 4 - Main Eng Idle; APU On | 24.80 | 13.40 | 15.66 | 2.66 | 2.85 | 0.82 | 2.10 | 6.08 | 2.37 | 4.24 | 12.97 | 12.46 |
| | Total Hours | 241.17 | 246.10 | 281.39 | 367.15 | 195.66 | 241.55 | 325.44 | 369.17 | 362.37 | 364.81 | 402.68 | 347.00 |
| | Gal Fuel Saved | 248.64 | 273.08 | 258.86 | 473.62 | 444.22 | 487.42 | 764.23 | 934.21 | 866.75 | 785.86 | 734.78 | 368.26 |
| | Tons $NO_X$ Reduced | 0.136 | 0.143 | 0.132 | 0.232 | 0.211 | 0.228 | 0.365 | 0.436 | 0.407 | 0.369 | 0.359 | 0.187 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 25.23% | 30.01% | 33.72% | 39.32% | 64.91% | 71.62% | 73.61% | 69.60% | 67.61% | 61.52% | 51.92% | 30.42% |
| | Idle 1 - Main Eng Idle; APU Off | 258.49 | 268.34 | 246.07 | 291.08 | 130.60 | 142.39 | 133.82 | 139.90 | 174.34 | 208.16 | 245.98 | 332.78 |
| | Idle 2 - Main Eng Off; APU On | 78.70 | 92.49 | 63.54 | 57.03 | 20.90 | 22.55 | 36.60 | 11.34 | 33.56 | 42.03 | 72.43 | 79.14 |
| | Idle 3 - Main Eng Off; APU Off | 29.41 | 45.00 | 75.98 | 133.86 | 226.44 | 341.90 | 345.83 | 336.05 | 339.99 | 300.27 | 216.87 | 75.06 |
| | Idle 4 - Main Eng Idle; APU On | 61.82 | 52.38 | 28.10 | 3.50 | 3.10 | 2.02 | 3.30 | 11.84 | 4.65 | 5.98 | 21.91 | 19.91 |
| | Total Hours | 532.13 | 561.68 | 523.94 | 598.95 | 448.81 | 610.10 | 602.51 | 589.03 | 663.30 | 670.18 | 667.31 | 607.12 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 41.00% | 44.65% | 49.00% | 49.64% | 67.43% | 67.77% | 71.55% | 68.66% | 72.39% | 63.07% | 57.35% | 42.00% |
| | Idle 1 - Main Eng Idle; APU Off | 266.78 | 246.95 | 241.70 | 228.17 | 173.90 | 163.69 | 166.46 | 183.31 | 148.70 | 220.65 | 215.53 | 277.33 |
| | Idle 2 - Main Eng Off; APU On | 89.90 | 92.12 | 70.75 | 29.20 | 13.64 | 10.98 | 17.21 | 12.83 | 27.94 | 37.30 | 61.86 | 101.91 |
| | Idle 3 - Main Eng Off; APU Off | 124.10 | 135.70 | 178.46 | 212.20 | 360.52 | 336.58 | 406.92 | 396.10 | 369.42 | 347.02 | 238.47 | 120.63 |
| | Idle 4 - Main Eng Idle; APU On | 41.19 | 35.50 | 17.64 | 16.68 | 6.81 | 1.57 | 2.21 | 3.31 | 2.84 | 4.37 | 7.80 | 29.92 |
| | Main Eng Wkg; APU On | 16.36 | 18.24 | 5.90 | 7.41 | 1.71 | 0.50 | 0.62 | 0.65 | 1.09 | 2.19 | 3.80 | 10.66 |
| | Main Eng Wkg; APU Off | 75.36 | 85.25 | 94.30 | 87.45 | 94.77 | 95.81 | 85.53 | 112.36 | 82.49 | 118.48 | 109.54 | 109.64 |
| | Total Hours | 613.68 | 613.76 | 608.75 | 581.11 | 651.34 | 609.13 | 678.95 | 708.57 | 632.47 | 730.00 | 637.00 | 650.09 |
| | Gal Fuel Saved | 766.07 | 823.74 | 936.21 | 934.10 | 1,482.61 | 1,381.63 | 1,683.20 | 1,624.66 | 1,568.35 | 1,508.69 | 1,153.53 | 799.72 |
| | Tons $NO_X$ Reduced | 0.328 | 0.353 | 0.393 | 0.370 | 0.579 | 0.560 | 0.685 | 0.653 | 0.633 | 0.602 | 0.463 | 0.344 |
| MD Only | % Idle Management Effectiveness | 43.39% | 30.64% | 50.06% | 49.04% | 66.58% | 68.86% | 72.94% | 72.03% | 75.06% | 64.12% | 57.70% | 43.12% |
| | Idle 1 - Main Eng Idle; APU Off | 184.95 | 131.35 | 102.93 | 85.26 | 87.03 | 95.52 | 80.73 | 108.05 | 98.82 | 130.20 | 167.96 | 215.11 |
| | Idle 2 - Main Eng Off; APU On | 61.52 | 24.13 | 24.54 | 10.92 | 5.55 | 3.05 | 4.30 | 7.57 | 17.81 | 24.87 | 44.84 | 84.23 |
| | Idle 3 - Main Eng Off; APU Off | 100.08 | 40.34 | 83.35 | 76.51 | 171.52 | 209.96 | 216.00 | 273.45 | 285.41 | 213.37 | 192.00 | 97.31 |
| | Idle 4 - Main Eng Idle; APU On | 25.88 | 14.58 | 4.69 | 5.61 | 1.86 | 0.79 | 1.02 | 1.08 | 1.93 | 3.11 | 5.69 | 24.33 |
| | Total Hours | 424.51 | 250.97 | 267.39 | 210.13 | 310.94 | 354.72 | 341.02 | 456.92 | 462.72 | 453.18 | 498.84 | 518.84 |
| | Gal Fuel Saved | 586.42 | 231.31 | 411.50 | 338.40 | 703.19 | 849.41 | 877.56 | 1,118.16 | 1,199.32 | 933.78 | 912.71 | 651.70 |
| | Tons $NO_X$ Reduced | 0.230 | 0.096 | 0.170 | 0.140 | 0.277 | 0.347 | 0.355 | 0.451 | 0.492 | 0.369 | 0.365 | 0.279 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 38.63% | 41.84% | 51.44% | 51.07% | 70.89% | 68.91% | 71.74% | 68.71% | 73.15% | 65.11% | 56.67% | 42.05% |
| | Idle 1 - Main Eng Idle; APU Off | 275.46 | 231.77 | 198.31 | 190.48 | 131.52 | 145.48 | 156.12 | 178.29 | 139.85 | 198.79 | 209.58 | 271.41 |
| | Idle 2 - Main Eng Off; APU On | 84.85 | 79.26 | 72.04 | 30.16 | 11.49 | 10.28 | 15.46 | 12.13 | 26.50 | 35.42 | 59.96 | 99.27 |
| | Idle 3 - Main Eng Off; APU Off | 112.25 | 110.31 | 156.74 | 176.98 | 314.71 | 315.46 | 385.56 | 383.78 | 361.65 | 343.26 | 224.11 | 119.86 |
| | Idle 4 - Main Eng Idle; APU On | 37.72 | 31.75 | 17.63 | 7.97 | 2.43 | 1.46 | 1.84 | 2.03 | 2.62 | 4.10 | 7.64 | 30.50 |
| | Total Hours | 597.42 | 543.91 | 536.06 | 478.52 | 531.48 | 548.99 | 637.12 | 686.43 | 611.74 | 696.71 | 612.76 | 642.02 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 38.70% | 35.41% | 44.86% | 40.71% | 61.29% | 69.15% | 72.05% | 65.56% | 69.91% | 60.58% | 55.68% | 51.45% |
| | Idle 1 - Main Eng Idle; APU Off | 266.64 | 322.22 | 320.91 | 337.75 | 219.74 | 160.82 | 162.80 | 214.12 | 149.69 | 231.58 | 236.74 | 249.39 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 42.84 | 29.31 | 15.59 | 38.55 | 25.43 | 70.75 | 112.36 |
| | Idle 3 - Main Eng Off; APU Off | 134.85 | 129.69 | 202.11 | 220.92 | 349.42 | 350.71 | 427.81 | 398.88 | 352.34 | 341.33 | 257.82 | 200.90 |
| | Idle 4 - Main Eng Idle; APU On | 78.30 | 18.50 | 17.83 | 13.35 | 3.66 | 14.76 | 14.56 | 3.65 | 18.54 | 7.08 | 24.76 | 46.25 |
| | Main Eng Wkg; APU On | 30.16 | 6.19 | 7.82 | 5.25 | 1.00 | 5.16 | 7.00 | 0.83 | 9.60 | 1.93 | 6.85 | 16.38 |
| | Main Eng Wkg; APU Off | 79.15 | 106.31 | 115.03 | 108.89 | 114.43 | 83.99 | 89.75 | 107.49 | 86.15 | 133.23 | 99.08 | 91.30 |
| | Total Hours | 672.00 | 640.02 | 737.14 | 706.29 | 692.57 | 658.29 | 731.24 | 740.57 | 654.86 | 740.57 | 696.00 | 716.57 |
| | Gal Fuel Saved | 760.41 | 695.34 | 1,039.63 | 941.23 | 1,409.45 | 1,534.71 | 1,798.40 | 1,644.70 | 1,524.40 | 1,444.72 | 1,248.75 | 1,144.24 |
| | Tons $NO_X$ Reduced | 0.393 | 0.341 | 0.504 | 0.443 | 0.653 | 0.724 | 0.842 | 0.765 | 0.719 | 0.676 | 0.601 | 0.569 |
| MD Only | % Idle Management Effectiveness | 38.58% | 35.55% | 44.95% | 40.86% | 60.95% | 68.68% | 71.38% | 65.73% | 69.91% | 59.79% | 56.84% | 51.07% |
| | Idle 1 - Main Eng Idle; APU Off | 266.58 | 315.84 | 319.68 | 334.00 | 211.79 | 156.46 | 156.67 | 211.47 | 149.41 | 227.33 | 200.17 | 232.59 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 17.74 | 8.17 | 15.59 | 38.52 | 25.41 | 67.23 | 104.39 |
| | Idle 3 - Main Eng Off; APU Off | 133.52 | 127.29 | 202.11 | 219.82 | 332.00 | 358.32 | 415.23 | 397.02 | 351.71 | 323.06 | 228.96 | 185.52 |
| | Idle 4 - Main Eng Idle; APU On | 77.95 | 18.50 | 17.83 | 13.35 | 3.66 | 14.99 | 13.12 | 3.65 | 18.54 | 6.98 | 24.76 | 45.17 |
| | Total Hours | 670.26 | 629.43 | 733.26 | 696.38 | 655.47 | 636.24 | 685.00 | 734.06 | 653.25 | 713.24 | 617.94 | 666.70 |
| | Gal Fuel Saved | 755.30 | 685.77 | 1,039.63 | 936.83 | 1,339.76 | 1,481.81 | 1,679.01 | 1,637.24 | 1,521.79 | 1,371.66 | 1,121.66 | 1,057.04 |
| | Tons $NO_X$ Reduced | 0.390 | 0.336 | 0.504 | 0.441 | 0.621 | 0.693 | 0.781 | 0.761 | 0.718 | 0.642 | 0.542 | 0.527 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 38.58% | 35.41% | 44.86% | 40.71% | 61.11% | 69.62% | 72.05% | 65.56% | 69.92% | 60.58% | 55.96% | 51.56% |
| | Idle 1 - Main Eng Idle; APU Off | 266.58 | 322.22 | 320.91 | 337.75 | 219.51 | 143.73 | 162.80 | 214.09 | 149.65 | 231.58 | 231.02 | 245.46 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 42.02 | 29.31 | 15.59 | 38.55 | 25.43 | 70.75 | 111.73 |
| | Idle 3 - Main Eng Off; APU Off | 133.52 | 129.69 | 202.11 | 220.92 | 346.42 | 320.72 | 427.81 | 398.88 | 352.34 | 341.33 | 254.30 | 198.77 |
| | Idle 4 - Main Eng Idle; APU On | 77.95 | 18.50 | 17.83 | 13.35 | 3.66 | 14.59 | 14.56 | 3.65 | 18.54 | 7.08 | 24.76 | 46.25 |
| | Total Hours | 670.26 | 640.02 | 737.14 | 706.29 | 688.70 | 607.17 | 731.24 | 740.47 | 654.81 | 740.57 | 681.65 | 709.02 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 44.50% | 49.90% | 51.12% | 59.58% | 63.45% | 64.58% | 78.09% | 67.86% | 73.04% | 68.44% | 58.38% | 47.65% |
| | Idle 1 - Main Eng Idle; APU Off | 207.51 | 207.27 | 234.28 | 201.85 | 169.76 | 179.63 | 113.41 | 182.85 | 117.73 | 167.19 | 233.17 | 285.18 |
| | Idle 2 - Main Eng Off; APU On | 110.95 | 90.55 | 63.97 | 72.53 | 24.47 | 22.94 | 22.41 | 34.93 | 39.06 | 70.54 | 80.61 | 154.20 |
| | Idle 3 - Main Eng Off; APU Off | 117.78 | 166.40 | 194.52 | 234.00 | 279.76 | 314.21 | 397.13 | 357.69 | 318.50 | 326.09 | 262.83 | 149.08 |
| | Idle 4 - Main Eng Idle; APU On | 77.81 | 50.76 | 12.91 | 6.08 | 5.50 | 5.29 | 4.28 | 3.11 | 14.24 | 15.74 | 11.64 | 47.97 |
| | Main Eng Wkg; APU On | 37.72 | 24.72 | 4.45 | 2.61 | 5.84 | 4.34 | 1.64 | 1.42 | 15.83 | 9.08 | 7.55 | 24.21 |
| | Main Eng Wkg; APU Off | 100.23 | 88.30 | 122.41 | 138.88 | 101.52 | 139.05 | 111.53 | 122.95 | 101.47 | 77.93 | 104.20 | 71.36 |
| | Total Hours | 652.00 | 628.00 | 632.53 | 655.94 | 586.85 | 665.45 | 650.40 | 702.94 | 606.83 | 666.56 | 700.00 | 732.00 |
| | Gal Fuel Saved | 785.44 | 930.88 | 981.20 | 1,172.17 | 1,196.37 | 1,329.21 | 1,659.84 | 1,544.38 | 1,393.68 | 1,527.32 | 1,310.47 | 1,074.45 |
| | Tons $NO_X$ Reduced | 0.241 | 0.275 | 0.280 | 0.333 | 0.333 | 0.370 | 0.460 | 0.430 | 0.391 | 0.432 | 0.373 | 0.322 |
| MD Only | % Idle Management Effectiveness | 45.68% | 47.67% | 55.84% | 57.67% | 70.31% | 66.68% | 82.22% | 68.97% | 72.60% | 75.11% | 61.08% | 44.25% |
| | Idle 1 - Main Eng Idle; APU Off | 79.35 | 141.43 | 152.93 | 123.92 | 83.68 | 105.36 | 46.54 | 119.51 | 64.34 | 85.75 | 185.74 | 235.13 |
| | Idle 2 - Main Eng Off; APU On | 70.98 | 68.27 | 58.44 | 47.63 | 18.61 | 19.74 | 16.67 | 33.17 | 23.34 | 35.70 | 64.68 | 115.55 |
| | Idle 3 - Main Eng Off; APU Off | 50.24 | 100.56 | 144.66 | 125.29 | 192.92 | 195.90 | 211.75 | 239.37 | 165.88 | 268.21 | 240.66 | 98.31 |
| | Idle 4 - Main Eng Idle; APU On | 64.83 | 43.89 | 7.72 | 2.98 | 5.64 | 2.39 | 2.87 | 3.10 | 7.09 | 14.95 | 8.83 | 34.25 |
| | Total Hours | 311.99 | 414.73 | 437.65 | 347.61 | 343.18 | 366.81 | 299.12 | 450.96 | 312.76 | 453.01 | 547.24 | 537.42 |
| | Gal Fuel Saved | 391.72 | 598.36 | 767.00 | 656.96 | 829.47 | 847.39 | 900.28 | 1,065.27 | 736.01 | 1,180.88 | 1,170.93 | 752.65 |
| | Tons $NO_X$ Reduced | 0.126 | 0.179 | 0.220 | 0.187 | 0.232 | 0.236 | 0.250 | 0.298 | 0.207 | 0.332 | 0.332 | 0.227 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 45.26% | 49.08% | 51.91% | 58.28% | 67.17% | 65.86% | 81.47% | 69.71% | 73.37% | 71.75% | 60.70% | 47.88% |
| | Idle 1 - Main Eng Idle; APU Off | 158.40 | 192.00 | 232.25 | 176.84 | 127.50 | 117.44 | 81.44 | 155.58 | 106.74 | 131.59 | 196.61 | 277.75 |
| | Idle 2 - Main Eng Off; APU On | 107.78 | 80.12 | 67.27 | 68.87 | 21.76 | 15.68 | 20.16 | 31.30 | 30.13 | 61.46 | 74.20 | 153.25 |
| | Idle 3 - Main Eng Off; APU Off | 87.21 | 149.21 | 195.76 | 185.23 | 249.71 | 216.28 | 352.48 | 333.62 | 300.19 | 309.21 | 244.84 | 144.77 |
| | Idle 4 - Main Eng Idle; APU On | 77.43 | 45.89 | 11.40 | 5.08 | 5.16 | 2.81 | 3.29 | 2.97 | 13.13 | 14.38 | 9.93 | 46.66 |
| | Total Hours | 530.84 | 567.13 | 630.47 | 544.29 | 479.96 | 423.50 | 525.72 | 618.76 | 550.96 | 594.66 | 604.83 | 715.88 |

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 10,497.00 | 10,136.77 | 10,395.72 | 9,660.37 | 5,816.80 | 5,216.58 | 4,503.47 | 5,558.38 | 4,964.93 | 7,235.05 | 8,785.62 | 12,323.97 |
| | Idle 2 - Main Eng Off; APU On | 4,850.98 | 4,647.60 | 3,918.22 | 2,275.00 | 853.53 | 983.82 | 1,126.18 | 864.62 | 1,571.28 | 2,260.73 | 3,633.83 | 5,720.57 |
| | Idle 3 - Main Eng Off; APU Off | 5,507.30 | 6,369.20 | 8,782.87 | 9,997.60 | 15,174.95 | 15,643.85 | 17,864.30 | 18,231.65 | 17,456.67 | 16,955.95 | 12,701.53 | 6,517.05 |
| | Idle 4 - Main Eng Idle; APU On | 2,133.75 | 1,487.35 | 862.80 | 422.13 | 232.60 | 157.98 | 151.40 | 193.42 | 255.25 | 332.73 | 519.23 | 1,375.70 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 22,989.03 | 22,640.92 | 23,959.60 | 22,355.10 | 22,077.88 | 22,002.23 | 23,645.35 | 24,848.07 | 24,248.13 | 26,784.47 | 25,640.22 | 25,937.28 |
| | Gal Fuel Saved | 36,641.61 | 39,858.62 | 47,524.56 | 47,240.17 | 63,368.85 | 65,727.39 | 75,085.51 | 75,659.26 | 74,858.80 | 75,087.62 | 62,492.46 | 44,082.43 |
| | Tons $NO_X$ Reduced | 15.383 | 16.451 | 19.492 | 18.642 | 24.878 | 26.529 | 30.291 | 30.367 | 30.148 | 29.729 | 25.012 | 18.266 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 4,970.38 | 5,427.27 | 5,072.60 | 4,941.82 | 2,631.13 | 2,444.32 | 2,239.60 | 3,289.10 | 3,159.52 | 4,155.83 | 6,169.12 | 8,714.67 |
| | Idle 2 - Main Eng Off; APU On | 2,757.80 | 2,074.65 | 1,871.35 | 1,276.33 | 500.00 | 388.63 | 635.45 | 617.43 | 1,105.72 | 1,283.62 | 2,892.80 | 4,354.63 |
| | Idle 3 - Main Eng Off; APU Off | 3,205.70 | 2,852.58 | 4,495.02 | 4,746.08 | 7,620.60 | 7,672.25 | 9,829.02 | 12,263.80 | 12,468.40 | 11,412.77 | 10,080.75 | 4,928.05 |
| | Idle 4 - Main Eng Idle; APU On | 1,230.08 | 702.68 | 373.92 | 177.70 | 106.57 | 94.50 | 91.22 | 106.93 | 183.05 | 264.73 | 416.33 | 1,060.07 |
| | Total Hours | 12,163.97 | 11,057.18 | 11,812.88 | 11,141.93 | 10,858.30 | 10,599.70 | 12,795.28 | 16,277.27 | 16,916.68 | 17,116.95 | 19,559.00 | 19,057.42 |
| | Gal Fuel Saved | 21,118.31 | 17,803.68 | 23,925.21 | 23,092.20 | 32,066.30 | 31,912.10 | 41,359.37 | 51,028.02 | 53,412.37 | 49,723.37 | 49,624.13 | 33,416.25 |
| | Tons $NO_X$ Reduced | 8.862 | 7.363 | 9.748 | 9.449 | 12.688 | 13.078 | 16.756 | 20.687 | 22.039 | 19.714 | 19.754 | 13.949 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 9,524.60 | 9,375.42 | 8,757.80 | 8,045.82 | 4,277.35 | 4,318.10 | 3,972.10 | 5,240.42 | 4,651.57 | 6,535.02 | 8,301.33 | 11,740.88 |
| | Idle 2 - Main Eng Off; APU On | 4,361.63 | 4,118.03 | 3,543.53 | 2,078.08 | 710.07 | 880.68 | 1,058.40 | 733.05 | 1,435.97 | 2,116.45 | 3,531.97 | 5,508.52 |
| | Idle 3 - Main Eng Off; APU Off | 4,512.62 | 5,431.95 | 7,514.82 | 8,045.62 | 12,932.13 | 13,836.92 | 16,994.57 | 17,680.60 | 16,970.43 | 16,719.83 | 12,141.95 | 6,334.27 |
| | Idle 4 - Main Eng Idle; APU On | 1,964.03 | 1,360.95 | 759.27 | 236.35 | 127.27 | 136.40 | 130.85 | 167.68 | 243.53 | 315.05 | 500.30 | 1,346.12 |
| | Total Hours | 20,362.88 | 20,286.35 | 20,575.42 | 18,405.87 | 18,046.82 | 19,172.10 | 22,155.92 | 23,821.75 | 23,301.50 | 25,686.35 | 24,475.55 | 24,929.78 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,519.43 | 2,655.98 | 2,768.55 | 2,959.37 | 1,461.40 | 1,234.08 | 1,205.67 | 1,212.87 | 1,276.07 | 1,633.38 | 2,211.97 | 3,472.02 |
| | Idle 2 - Main Eng Off; APU On | 907.18 | 1,098.48 | 974.87 | 740.90 | 273.63 | 238.95 | 398.48 | 227.77 | 373.72 | 467.50 | 841.05 | 935.80 |
| | Idle 3 - Main Eng Off; APU Off | 406.77 | 541.17 | 1,149.23 | 1,805.23 | 2,825.27 | 3,460.58 | 3,684.17 | 3,813.62 | 3,666.60 | 3,339.45 | 2,541.55 | 810.53 |
| | Idle 4 - Main Eng Idle; APU On | 476.45 | 465.53 | 343.27 | 43.92 | 33.20 | 20.10 | 36.47 | 82.25 | 44.72 | 62.53 | 173.98 | 210.08 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 4,309.83 | 4,761.17 | 5,235.92 | 5,549.42 | 4,593.50 | 4,953.72 | 5,324.78 | 5,336.50 | 5,361.10 | 5,502.87 | 5,768.55 | 5,428.43 |
| | Gal Fuel Saved | 4,306.63 | 5,485.68 | 7,592.16 | 9,646.15 | 12,185.11 | 14,620.43 | 16,032.22 | 15,952.86 | 15,874.22 | 14,864.20 | 12,834.09 | 6,199.26 |
| | Tons $NO_X$ Reduced | 2.346 | 2.937 | 3.847 | 4.658 | 5.707 | 6.820 | 7.517 | 7.448 | 7.440 | 7.002 | 6.190 | 3.159 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 793.07 | 1,004.15 | 1,455.40 | 1,323.13 | 352.55 | 495.58 | 377.32 | 476.67 | 549.75 | 793.33 | 1,161.40 | 1,929.78 |
| | Idle 2 - Main Eng Off; APU On | 497.78 | 572.25 | 423.52 | 469.63 | 200.42 | 113.75 | 341.53 | 107.28 | 241.82 | 226.38 | 732.13 | 609.20 |
| | Idle 3 - Main Eng Off; APU Off | 171.27 | 292.27 | 499.65 | 746.32 | 880.83 | 1,053.18 | 1,164.43 | 2,061.82 | 2,069.98 | 2,012.07 | 1,547.40 | 557.75 |
| | Idle 4 - Main Eng Idle; APU On | 147.87 | 120.67 | 173.22 | 22.75 | 18.90 | 6.87 | 13.53 | 40.02 | 22.73 | 44.95 | 136.18 | 140.13 |
| | Total Hours | 1,609.98 | 1,989.33 | 2,551.78 | 2,561.83 | 1,452.70 | 1,669.38 | 1,896.82 | 2,685.78 | 2,884.28 | 3,076.73 | 3,577.12 | 3,236.87 |
| | Gal Fuel Saved | 2,233.28 | 2,982.73 | 3,283.31 | 4,526.03 | 4,174.55 | 4,584.99 | 5,780.29 | 8,575.35 | 9,065.72 | 8,767.67 | 8,522.47 | 4,153.76 |
| | Tons $NO_X$ Reduced | 1.198 | 1.556 | 1.670 | 2.217 | 1.985 | 2.149 | 2.761 | 3.999 | 4.255 | 4.119 | 4.160 | 2.112 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,345.10 | 2,575.62 | 2,538.42 | 2,351.15 | 1,013.83 | 1,187.92 | 1,036.15 | 1,158.40 | 1,178.38 | 1,620.83 | 2,198.17 | 3,328.33 |
| | Idle 2 - Main Eng Off; APU On | 845.80 | 1,098.07 | 807.90 | 618.37 | 223.62 | 237.40 | 386.15 | 120.83 | 336.25 | 459.43 | 841.05 | 899.23 |
| | Idle 3 - Main Eng Off; APU Off | 301.13 | 529.13 | 930.57 | 1,365.32 | 2,337.12 | 3,446.92 | 3,563.67 | 3,703.33 | 3,507.90 | 3,334.22 | 2,498.68 | 806.25 |
| | Idle 4 - Main Eng Idle; APU On | 465.65 | 464.37 | 305.85 | 32.20 | 23.88 | 19.88 | 31.62 | 78.55 | 44.02 | 62.50 | 173.78 | 209.08 |
| | Total Hours | 3,957.68 | 4,667.18 | 4,582.73 | 4,367.03 | 3,598.45 | 4,892.12 | 5,017.58 | 5,061.12 | 5,066.55 | 5,476.98 | 5,711.68 | 5,242.90 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 4,746.72 | 4,192.67 | 4,057.22 | 3,518.67 | 2,141.72 | 1,919.90 | 1,971.05 | 2,418.67 | 2,248.02 | 3,469.42 | 3,558.17 | 4,857.28 |
| | Idle 2 - Main Eng Off; APU On | 2,079.47 | 2,111.93 | 1,674.67 | 618.13 | 272.32 | 205.88 | 332.88 | 258.35 | 637.37 | 827.18 | 1,425.17 | 2,238.75 |
| | Idle 3 - Main Eng Off; APU Off | 2,822.42 | 3,105.87 | 3,984.43 | 4,339.63 | 6,924.67 | 6,782.03 | 7,841.83 | 8,509.35 | 8,199.48 | 7,779.77 | 5,487.70 | 2,663.45 |
| | Idle 4 - Main Eng Idle; APU On | 673.82 | 538.18 | 309.87 | 262.55 | 132.72 | 28.83 | 34.12 | 60.62 | 54.82 | 75.45 | 144.52 | 490.03 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 10,322.42 | 9,948.65 | 10,026.18 | 8,738.98 | 9,471.42 | 8,936.65 | 10,179.88 | 11,246.98 | 11,139.68 | 12,151.82 | 10,615.55 | 10,249.52 |
| | Gal Fuel Saved | 17,718.78 | 19,053.22 | 21,275.01 | 19,226.92 | 28,510.08 | 27,790.65 | 32,447.10 | 34,851.99 | 34,872.56 | 33,808.59 | 26,574.66 | 17,736.85 |
| | Tons $NO_X$ Reduced | 7.524 | 8.084 | 8.904 | 7.594 | 11.126 | 11.257 | 13.189 | 13.995 | 14.077 | 13.500 | 10.642 | 7.564 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 2,239.18 | 1,904.23 | 1,084.13 | 1,121.18 | 847.40 | 898.70 | 923.82 | 1,337.90 | 1,502.27 | 1,958.77 | 2,723.12 | 3,313.78 |
| | Idle 2 - Main Eng Off; APU On | 1,002.63 | 443.73 | 359.27 | 200.52 | 92.83 | 35.05 | 79.28 | 147.63 | 415.60 | 552.67 | 1,040.80 | 1,696.22 |
| | Idle 3 - Main Eng Off; APU Off | 1,623.97 | 724.92 | 1,197.62 | 1,349.30 | 2,713.25 | 3,314.23 | 4,010.15 | 5,589.12 | 6,328.50 | 4,773.38 | 4,419.32 | 1,971.65 |
| | Idle 4 - Main Eng Idle; APU On | 301.93 | 195.47 | 58.67 | 68.02 | 28.33 | 12.67 | 14.45 | 18.78 | 38.80 | 56.43 | 113.45 | 379.62 |
| | Total Hours | 5,167.72 | 3,268.35 | 2,699.68 | 2,739.02 | 3,681.82 | 4,260.65 | 5,027.70 | 7,093.43 | 8,285.17 | 7,341.25 | 8,296.68 | 7,361.27 |
| | Gal Fuel Saved | 9,611.47 | 4,236.11 | 5,940.83 | 6,015.05 | 11,141.21 | 13,364.40 | 16,293.43 | 22,832.84 | 26,664.68 | 20,886.36 | 21,048.65 | 13,247.45 |
| | Tons $NO_X$ Reduced | 3.734 | 1.755 | 2.457 | 2.492 | 4.373 | 5.454 | 6.597 | 9.213 | 10.942 | 8.269 | 8.413 | 5.630 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 4,533.30 | 3,641.02 | 2,898.73 | 2,727.95 | 1,402.18 | 1,674.42 | 1,828.55 | 2,354.18 | 2,094.45 | 3,078.58 | 3,434.40 | 4,476.87 |
| | Idle 2 - Main Eng Off; APU On | 1,792.10 | 1,693.73 | 1,494.33 | 579.52 | 206.92 | 181.90 | 296.30 | 242.75 | 608.32 | 785.12 | 1,384.73 | 2,079.00 |
| | Idle 3 - Main Eng Off; APU Off | 2,352.22 | 2,346.73 | 3,113.57 | 3,315.27 | 5,524.57 | 6,119.35 | 7,447.15 | 8,260.08 | 8,047.42 | 7,697.20 | 5,158.43 | 2,528.53 |
| | Idle 4 - Main Eng Idle; APU On | 571.95 | 452.05 | 272.90 | 98.52 | 39.70 | 26.32 | 26.40 | 39.98 | 50.62 | 69.55 | 141.77 | 472.95 |
| | Total Hours | 9,249.57 | 8,133.53 | 7,779.53 | 6,721.25 | 7,173.37 | 8,001.98 | 9,598.40 | 10,897.00 | 10,800.80 | 11,630.45 | 10,119.33 | 9,557.35 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.58 | 1,528.35 | 1,539.05 | 1,604.30 | 886.50 | 702.17 | 630.25 | 847.23 | 615.70 | 871.33 | 1,069.42 | 1,257.00 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 296.87 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 738.63 |
| | Idle 3 - Main Eng Off; APU Off | 930.93 | 891.35 | 1,380.72 | 1,473.18 | 2,320.90 | 2,315.32 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,716.15 | 1,375.53 |
| | Idle 4 - Main Eng Idle; APU On | 329.30 | 84.60 | 80.87 | 61.32 | 22.90 | 67.55 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.58 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 3,180.13 | 2,901.68 | 3,512.60 | 3,273.15 | 3,259.55 | 3,381.90 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,329.07 | 3,593.75 |
| | Gal Fuel Saved | 5,381.23 | 4,824.29 | 7,164.05 | 6,295.91 | 9,364.83 | 10,198.74 | 11,629.40 | 10,771.36 | 9,982.44 | 9,525.96 | 8,318.36 | 7,797.27 |
| | Tons $NO_X$ Reduced | 2.717 | 2.353 | 3.462 | 2.958 | 4.339 | 4.804 | 5.429 | 5.008 | 4.686 | 4.454 | 3.982 | 3.849 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,494.38 | 1,538.45 | 1,594.92 | 874.95 | 552.92 | 614.33 | 838.33 | 614.83 | 854.68 | 886.92 | 1,163.00 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 103.68 | 52.77 | 105.73 | 224.93 | 167.50 | 434.67 | 688.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 875.85 | 1,380.72 | 1,465.48 | 2,226.60 | 2,026.63 | 2,697.67 | 2,602.32 | 2,320.33 | 2,129.22 | 1,566.70 | 1,269.67 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 60.95 | 36.57 | 23.77 | 67.13 | 43.97 | 86.85 | 219.00 |
| | Total Hours | 3,168.43 | 2,852.22 | 3,512.00 | 3,256.07 | 3,153.70 | 2,744.18 | 3,401.33 | 3,570.15 | 3,227.23 | 3,195.37 | 2,975.13 | 3,339.90 |
| | Gal Fuel Saved | 5,347.44 | 4,762.29 | 7,164.05 | 6,265.11 | 8,987.63 | 8,408.33 | 10,940.45 | 10,743.36 | 9,980.71 | 9,041.80 | 7,647.71 | 7,209.24 |
| | Tons $NO_X$ Reduced | 2.701 | 2.324 | 3.462 | 2.944 | 4.165 | 3.926 | 5.076 | 4.995 | 4.685 | 4.231 | 3.667 | 3.564 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,528.35 | 1,539.05 | 1,604.30 | 885.75 | 585.70 | 630.25 | 847.23 | 615.70 | 871.33 | 1,050.37 | 1,235.78 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 291.08 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 734.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 891.35 | 1,380.72 | 1,473.18 | 2,302.28 | 2,109.28 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,713.52 | 1,361.08 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 66.87 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.55 |
| | Total Hours | 3,168.43 | 2,901.68 | 3,512.60 | 3,273.15 | 3,240.18 | 3,052.93 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,307.38 | 3,553.65 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,879.27 | 1,759.77 | 2,030.90 | 1,578.03 | 1,327.18 | 1,360.43 | 696.50 | 1,079.62 | 825.15 | 1,260.92 | 1,946.07 | 2,737.67 |
| | Idle 2 - Main Eng Off; APU On | 1,296.02 | 1,039.80 | 756.72 | 781.62 | 278.33 | 242.12 | 215.33 | 272.77 | 335.27 | 798.55 | 910.97 | 1,807.38 |
| | Idle 3 - Main Eng Off; APU Off | 1,347.18 | 1,830.82 | 2,268.48 | 2,379.55 | 3,104.12 | 3,085.92 | 3,572.25 | 3,299.37 | 3,269.82 | 3,586.42 | 2,956.13 | 1,667.53 |
| | Idle 4 - Main Eng Idle; APU On | 654.18 | 399.03 | 128.80 | 54.35 | 43.78 | 41.50 | 37.65 | 26.78 | 88.58 | 150.43 | 113.88 | 453.00 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 5,176.65 | 5,029.42 | 5,184.90 | 4,793.55 | 4,753.42 | 4,729.97 | 4,521.73 | 4,678.53 | 4,518.82 | 5,796.32 | 5,927.05 | 6,665.58 |
| | Gal Fuel Saved | 9,234.96 | 10,495.43 | 11,493.34 | 12,071.19 | 13,308.83 | 13,117.57 | 14,976.79 | 14,083.04 | 14,129.57 | 16,888.86 | 14,765.35 | 12,349.04 |
| | Tons $NO_X$ Reduced | 2.796 | 3.077 | 3.279 | 3.432 | 3.706 | 3.648 | 4.156 | 3.916 | 3.945 | 4.773 | 4.198 | 3.694 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 586.95 | 1,024.50 | 994.62 | 902.58 | 556.23 | 497.12 | 324.13 | 636.20 | 492.67 | 549.05 | 1,397.68 | 2,308.10 |
| | Idle 2 - Main Eng Off; APU On | 689.07 | 661.28 | 576.60 | 471.83 | 177.50 | 136.15 | 161.87 | 256.78 | 223.37 | 337.07 | 685.20 | 1,360.98 |
| | Idle 3 - Main Eng Off; APU Off | 488.40 | 959.55 | 1,417.03 | 1,184.98 | 1,799.92 | 1,278.20 | 1,956.77 | 2,010.55 | 1,749.58 | 2,498.10 | 2,547.33 | 1,128.98 |
| | Idle 4 - Main Eng Idle; APU On | 453.42 | 301.95 | 61.17 | 25.62 | 36.43 | 14.02 | 26.67 | 24.37 | 54.38 | 119.38 | 79.85 | 321.32 |
| | Total Hours | 2,217.83 | 2,947.28 | 3,049.42 | 2,585.02 | 2,570.08 | 1,925.48 | 2,469.43 | 2,927.90 | 2,520.00 | 3,503.60 | 4,710.07 | 5,119.38 |
| | Gal Fuel Saved | 3,926.12 | 5,822.56 | 7,537.03 | 6,286.02 | 7,762.91 | 5,554.39 | 8,345.20 | 8,876.46 | 7,701.26 | 11,027.54 | 12,405.31 | 8,805.81 |
| | Tons $NO_X$ Reduced | 1.229 | 1.728 | 2.158 | 1.795 | 2.165 | 1.549 | 2.322 | 2.480 | 2.156 | 3.095 | 3.515 | 2.643 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,295.02 | 1,630.43 | 1,781.60 | 1,362.42 | 975.58 | 870.07 | 477.15 | 880.60 | 763.03 | 964.27 | 1,618.40 | 2,699.90 |
| | Idle 2 - Main Eng Off; APU On | 1,155.42 | 928.85 | 729.33 | 745.85 | 250.28 | 170.30 | 196.47 | 263.73 | 266.47 | 704.40 | 849.53 | 1,796.05 |
| | Idle 3 - Main Eng Off; APU Off | 937.20 | 1,664.73 | 2,089.97 | 1,891.85 | 2,768.17 | 2,161.37 | 3,217.70 | 3,107.87 | 3,094.35 | 3,438.10 | 2,771.32 | 1,638.40 |
| | Idle 4 - Main Eng Idle; APU On | 599.57 | 359.93 | 99.65 | 44.32 | 40.78 | 23.33 | 29.67 | 25.38 | 81.77 | 138.68 | 97.90 | 441.53 |
| | Total Hours | 3,987.20 | 4,583.95 | 4,700.55 | 4,044.43 | 4,034.82 | 3,225.07 | 3,920.98 | 4,277.58 | 4,205.62 | 5,245.45 | 5,337.15 | 6,575.88 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 45.06% | 48.66% | 53.01% | 54.90% | 72.60% | 75.57% | 80.31% | 76.85% | 78.47% | 71.75% | 63.71% | 47.18% |
| | Idle 1 - Main Eng Idle; APU Off | 194.39 | 184.30 | 185.64 | 182.27 | 114.05 | 102.29 | 91.91 | 106.89 | 93.68 | 131.55 | 159.74 | 228.22 |
| | Idle 2 - Main Eng Off; APU On | 89.83 | 84.50 | 69.97 | 42.92 | 16.74 | 19.29 | 22.98 | 16.63 | 29.65 | 41.10 | 66.07 | 105.94 |
| | Idle 3 - Main Eng Off; APU Off | 101.99 | 115.80 | 156.84 | 188.63 | 297.55 | 306.74 | 364.58 | 350.61 | 329.37 | 308.29 | 230.94 | 120.69 |
| | Idle 4 - Main Eng Idle; APU On | 39.51 | 27.04 | 15.41 | 7.96 | 4.56 | 3.10 | 3.09 | 3.72 | 4.82 | 6.05 | 9.44 | 25.48 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| | Gal Fuel Saved | 678.55 | 724.70 | 848.65 | 891.32 | 1242.53 | 1288.77 | 1532.36 | 1454.99 | 1412.43 | 1365.23 | 1136.23 | 816.34 |
| | Tons $NO_X$ Reduced | 0.285 | 0.299 | 0.348 | 0.352 | 0.488 | 0.520 | 0.618 | 0.584 | 0.569 | 0.541 | 0.455 | 0.338 |
| MD Only | % Idle Management Effectiveness | 49.03% | 44.56% | 53.89% | 54.05% | 74.79% | 76.05% | 81.78% | 79.14% | 80.24% | 74.17% | 66.33% | 48.71% |
| | Idle 1 - Main Eng Idle; APU Off | 115.59 | 115.47 | 112.72 | 107.43 | 59.80 | 61.11 | 49.77 | 68.52 | 59.61 | 78.41 | 114.24 | 167.59 |
| | Idle 2 - Main Eng Off; APU On | 64.13 | 44.14 | 41.59 | 27.75 | 11.36 | 9.72 | 14.12 | 12.86 | 20.86 | 24.22 | 53.57 | 83.74 |
| | Idle 3 - Main Eng Off; APU Off | 74.55 | 60.69 | 99.89 | 103.18 | 173.20 | 191.81 | 218.42 | 255.50 | 235.25 | 215.34 | 186.68 | 94.77 |
| | Idle 4 - Main Eng Idle; APU On | 28.61 | 14.95 | 8.31 | 3.86 | 2.42 | 2.36 | 2.03 | 2.23 | 3.45 | 4.99 | 7.71 | 20.39 |
| | Total Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| | Gal Fuel Saved | 491.12 | 378.80 | 531.67 | 502.00 | 728.78 | 797.80 | 919.10 | 1063.08 | 1007.78 | 938.18 | 918.97 | 642.62 |
| | Tons $NO_X$ Reduced | 0.206 | 0.157 | 0.217 | 0.205 | 0.288 | 0.327 | 0.372 | 0.431 | 0.416 | 0.372 | 0.366 | 0.268 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 43.58% | 47.08% | 53.75% | 55.00% | 75.59% | 76.77% | 81.48% | 77.30% | 78.99% | 73.33% | 64.04% | 47.50% |
| | Idle 1 - Main Eng Idle; APU Off | 186.76 | 176.89 | 168.42 | 164.20 | 87.29 | 86.36 | 81.06 | 100.78 | 87.77 | 118.82 | 150.93 | 221.53 |
| | Idle 2 - Main Eng Off; APU On | 85.52 | 77.70 | 68.14 | 42.41 | 14.49 | 17.61 | 21.60 | 14.10 | 27.09 | 38.48 | 64.22 | 103.93 |
| | Idle 3 - Main Eng Off; APU Off | 88.48 | 102.49 | 144.52 | 164.20 | 263.92 | 276.74 | 346.83 | 340.01 | 320.20 | 304.00 | 220.76 | 119.51 |
| | Idle 4 - Main Eng Idle; APU On | 38.51 | 25.68 | 14.60 | 4.82 | 2.60 | 2.73 | 2.67 | 3.22 | 4.59 | 5.73 | 9.10 | 25.40 |
| | Total Hours | 399.27 | 382.76 | 395.68 | 375.63 | 368.30 | 383.44 | 452.16 | 458.11 | 439.65 | 467.02 | 445.01 | 470.37 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 30.49% | 34.44% | 40.57% | 45.88% | 67.46% | 74.68% | 76.67% | 75.73% | 75.36% | 69.18% | 58.64% | 32.17% |
| | Idle 1 - Main Eng Idle; APU Off | 229.04 | 221.33 | 212.97 | 227.64 | 132.85 | 112.19 | 109.61 | 101.07 | 116.01 | 136.12 | 184.33 | 289.33 |
| | Idle 2 - Main Eng Off; APU On | 82.47 | 91.54 | 74.99 | 56.99 | 24.88 | 21.72 | 36.23 | 18.98 | 33.97 | 38.96 | 70.09 | 77.98 |
| | Idle 3 - Main Eng Off; APU Off | 36.98 | 45.10 | 88.40 | 138.86 | 256.84 | 314.60 | 334.92 | 317.80 | 333.33 | 278.29 | 211.80 | 67.54 |
| | Idle 4 - Main Eng Idle; APU On | 43.31 | 38.79 | 26.41 | 3.38 | 3.02 | 1.83 | 3.32 | 6.85 | 4.07 | 5.21 | 14.50 | 17.51 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 391.80 | 396.76 | 402.76 | 426.88 | 417.59 | 450.34 | 484.07 | 444.71 | 487.37 | 458.57 | 480.71 | 452.37 |
| | Gal Fuel Saved | 391.51 | 457.14 | 584.01 | 742.01 | 1,107.74 | 1,329.13 | 1,457.47 | 1,329.41 | 1,443.11 | 1,238.68 | 1,069.51 | 516.60 |
| | Tons $NO_x$ Reduced | 0.213 | 0.245 | 0.296 | 0.358 | 0.519 | 0.620 | 0.683 | 0.621 | 0.676 | 0.584 | 0.516 | 0.263 |
| MD Only | % Idle Management Effectiveness | 41.56% | 43.46% | 36.18% | 47.46% | 74.43% | 69.90% | 79.39% | 80.76% | 80.15% | 72.75% | 63.73% | 36.05% |
| | Idle 1 - Main Eng Idle; APU Off | 88.12 | 91.29 | 111.95 | 132.31 | 35.26 | 49.56 | 47.16 | 47.67 | 49.98 | 66.11 | 96.78 | 160.82 |
| | Idle 2 - Main Eng Off; APU On | 55.31 | 52.02 | 32.58 | 46.96 | 20.04 | 11.38 | 42.69 | 10.73 | 21.98 | 18.87 | 61.01 | 50.77 |
| | Idle 3 - Main Eng Off; APU Off | 19.03 | 26.57 | 38.43 | 74.63 | 88.08 | 105.32 | 145.55 | 206.18 | 188.18 | 167.67 | 128.95 | 46.48 |
| | Idle 4 - Main Eng Idle; APU On | 16.43 | 10.97 | 13.32 | 2.28 | 1.89 | 0.69 | 1.69 | 4.00 | 2.07 | 3.75 | 11.35 | 11.68 |
| | Total Hours | 178.89 | 180.85 | 196.29 | 256.18 | 145.27 | 166.94 | 237.10 | 268.58 | 262.21 | 256.39 | 298.09 | 269.74 |
| | Gal Fuel Saved | 248.14 | 271.16 | 252.56 | 452.60 | 417.45 | 458.50 | 722.54 | 857.54 | 824.16 | 730.64 | 710.21 | 346.15 |
| | Tons $NO_x$ Reduced | 0.133 | 0.141 | 0.128 | 0.222 | 0.198 | 0.215 | 0.345 | 0.400 | 0.387 | 0.343 | 0.347 | 0.176 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 28.98% | 34.86% | 37.94% | 45.42% | 71.16% | 75.31% | 78.72% | 75.56% | 75.87% | 69.27% | 58.47% | 32.53% |
| | Idle 1 - Main Eng Idle; APU Off | 213.19 | 214.63 | 195.26 | 213.74 | 92.17 | 107.99 | 94.20 | 96.53 | 107.13 | 135.07 | 183.18 | 277.36 |
| | Idle 2 - Main Eng Off; APU On | 76.89 | 91.51 | 62.15 | 56.22 | 20.33 | 21.58 | 35.10 | 10.07 | 30.57 | 38.29 | 70.09 | 74.94 |
| | Idle 3 - Main Eng Off; APU Off | 27.38 | 44.09 | 71.58 | 124.12 | 212.47 | 313.36 | 323.97 | 308.61 | 318.90 | 277.85 | 208.22 | 67.19 |
| | Idle 4 - Main Eng Idle; APU On | 42.33 | 38.70 | 23.53 | 2.93 | 2.17 | 1.81 | 2.87 | 6.55 | 4.00 | 5.21 | 14.48 | 17.42 |
| | Total Hours | 359.79 | 388.93 | 352.52 | 397.00 | 327.13 | 444.74 | 456.14 | 421.76 | 460.60 | 456.42 | 475.97 | 436.91 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 47.49% | 52.45% | 56.44% | 56.73% | 75.99% | 78.19% | 80.30% | 77.96% | 79.33% | 70.83% | 65.12% | 47.83% |
| | Idle 1 - Main Eng Idle; APU Off | 197.78 | 174.69 | 169.05 | 159.94 | 101.99 | 87.27 | 93.86 | 105.16 | 93.67 | 144.56 | 148.26 | 211.19 |
| | Idle 2 - Main Eng Off; APU On | 86.64 | 88.00 | 69.78 | 28.10 | 12.97 | 9.36 | 15.85 | 11.23 | 26.56 | 34.47 | 59.38 | 97.34 |
| | Idle 3 - Main Eng Off; APU Off | 117.60 | 129.41 | 166.02 | 197.26 | 329.75 | 308.27 | 373.42 | 369.97 | 341.65 | 324.16 | 228.65 | 115.80 |
| | Idle 4 - Main Eng Idle; APU On | 28.08 | 22.42 | 12.91 | 11.93 | 6.32 | 1.31 | 1.62 | 2.64 | 2.28 | 3.14 | 6.02 | 21.31 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 430.10 | 414.53 | 417.76 | 397.23 | 451.02 | 406.21 | 484.76 | 489.00 | 464.15 | 506.33 | 442.31 | 445.63 |
| | Gal Fuel Saved | 738.28 | 793.88 | 886.46 | 873.95 | 1,357.62 | 1,263.21 | 1,545.10 | 1,515.30 | 1,453.02 | 1,408.69 | 1,107.28 | 771.17 |
| | Tons $NO_x$ Reduced | 0.314 | 0.337 | 0.371 | 0.345 | 0.530 | 0.512 | 0.628 | 0.608 | 0.587 | 0.562 | 0.443 | 0.329 |
| MD Only | % Idle Management Effectiveness | 50.83% | 35.76% | 57.67% | 56.58% | 76.21% | 78.61% | 81.34% | 80.87% | 81.40% | 72.55% | 65.81% | 49.83% |
| | Idle 1 - Main Eng Idle; APU Off | 131.72 | 100.22 | 72.28 | 59.01 | 49.85 | 52.86 | 46.19 | 60.81 | 62.59 | 81.62 | 113.46 | 157.80 |
| | Idle 2 - Main Eng Off; APU On | 58.98 | 23.35 | 23.95 | 10.55 | 5.46 | 2.06 | 3.96 | 6.71 | 17.32 | 23.03 | 43.37 | 80.77 |
| | Idle 3 - Main Eng Off; APU Off | 95.53 | 38.15 | 79.84 | 71.02 | 159.60 | 194.95 | 200.51 | 254.05 | 263.69 | 198.89 | 184.14 | 93.89 |
| | Idle 4 - Main Eng Idle; APU On | 17.76 | 10.29 | 3.91 | 3.58 | 1.67 | 0.75 | 0.72 | 0.85 | 1.62 | 2.35 | 4.73 | 18.08 |
| | Total Hours | 303.98 | 172.02 | 179.98 | 144.16 | 216.58 | 250.63 | 251.39 | 322.43 | 345.22 | 305.89 | 345.70 | 350.54 |
| | Gal Fuel Saved | 565.38 | 222.95 | 396.06 | 316.58 | 655.37 | 786.14 | 814.67 | 1,037.86 | 1,111.03 | 870.26 | 877.03 | 630.83 |
| | Tons $NO_x$ Reduced | 0.220 | 0.092 | 0.164 | 0.131 | 0.257 | 0.321 | 0.330 | 0.419 | 0.456 | 0.345 | 0.351 | 0.268 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 44.81% | 49.68% | 59.23% | 57.95% | 79.90% | 78.75% | 80.67% | 78.03% | 80.14% | 72.93% | 64.66% | 48.21% |
| | Idle 1 - Main Eng Idle; APU Off | 206.06 | 165.50 | 138.03 | 136.40 | 73.80 | 79.73 | 87.07 | 102.36 | 87.27 | 128.27 | 143.10 | 203.49 |
| | Idle 2 - Main Eng Off; APU On | 81.46 | 76.99 | 71.16 | 28.98 | 10.89 | 8.66 | 14.11 | 10.55 | 25.35 | 32.71 | 57.70 | 94.50 |
| | Idle 3 - Main Eng Off; APU Off | 106.92 | 106.67 | 148.27 | 165.76 | 290.77 | 291.40 | 354.63 | 359.13 | 335.31 | 320.72 | 214.93 | 114.93 |
| | Idle 4 - Main Eng Idle; APU On | 26.00 | 20.55 | 13.00 | 4.93 | 2.09 | 1.25 | 1.26 | 1.74 | 2.11 | 2.90 | 5.91 | 21.50 |
| | Total Hours | 420.43 | 369.71 | 370.45 | 336.06 | 377.55 | 381.05 | 457.07 | 473.78 | 450.03 | 484.60 | 421.64 | 434.42 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 47.14% | 44.41% | 53.88% | 49.11% | 72.10% | 77.24% | 81.39% | 75.71% | 78.85% | 72.53% | 65.27% | 58.83% |
| | Idle 1 - Main Eng Idle; APU Off | 193.08 | 218.34 | 219.86 | 229.19 | 126.64 | 100.31 | 90.04 | 121.03 | 87.96 | 124.48 | 152.77 | 179.57 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 42.41 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 105.52 |
| | Idle 3 - Main Eng Off; APU Off | 132.99 | 127.34 | 197.25 | 210.45 | 331.56 | 330.76 | 395.15 | 372.76 | 331.54 | 321.47 | 245.16 | 196.50 |
| | Idle 4 - Main Eng Idle; APU On | 47.04 | 12.09 | 11.55 | 8.76 | 3.27 | 9.65 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.80 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 454.30 | 414.53 | 501.80 | 467.59 | 465.65 | 483.13 | 516.99 | 512.29 | 461.22 | 476.21 | 475.58 | 513.39 |
| | Gal Fuel Saved | 768.75 | 689.18 | 1,023.44 | 899.42 | 1,337.83 | 1,456.96 | 1,661.34 | 1,538.77 | 1,426.06 | 1,360.85 | 1,188.34 | 1,113.90 |
| | Tons $NO_x$ Reduced | 0.388 | 0.336 | 0.495 | 0.423 | 0.620 | 0.686 | 0.776 | 0.715 | 0.669 | 0.636 | 0.569 | 0.550 |
| MD Only | % Idle Management Effectiveness | 47.04% | 44.64% | 53.89% | 49.13% | 71.53% | 77.63% | 80.86% | 75.85% | 78.87% | 71.88% | 67.27% | 58.62% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 213.48 | 219.78 | 227.85 | 124.99 | 92.15 | 87.76 | 119.76 | 87.83 | 122.10 | 126.70 | 166.14 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 17.28 | 7.54 | 15.10 | 32.13 | 23.93 | 62.10 | 98.32 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 125.12 | 197.25 | 209.35 | 318.09 | 337.77 | 385.38 | 371.76 | 331.48 | 304.17 | 223.81 | 181.38 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 10.16 | 5.22 | 3.40 | 9.59 | 6.28 | 12.41 | 31.29 |
| | Total Hours | 452.63 | 407.46 | 501.71 | 465.15 | 450.53 | 457.36 | 485.90 | 510.02 | 461.03 | 456.48 | 425.02 | 477.13 |
| | Gal Fuel Saved | 763.92 | 680.33 | 1,023.44 | 895.02 | 1,283.95 | 1,401.39 | 1,562.92 | 1,534.77 | 1,425.82 | 1,291.69 | 1,092.53 | 1,029.89 |
| | Tons $NO_x$ Reduced | 0.386 | 0.332 | 0.495 | 0.421 | 0.595 | 0.654 | 0.725 | 0.714 | 0.669 | 0.604 | 0.524 | 0.509 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 47.04% | 44.41% | 53.88% | 49.11% | 71.96% | 78.62% | 81.39% | 75.71% | 78.85% | 72.53% | 65.62% | 58.96% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 218.34 | 219.86 | 229.19 | 126.54 | 83.67 | 90.04 | 121.03 | 87.96 | 124.48 | 150.05 | 176.54 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 41.58 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 104.89 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 127.34 | 197.25 | 210.45 | 328.90 | 301.33 | 395.15 | 372.76 | 331.54 | 321.47 | 244.79 | 194.44 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 9.55 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.79 |
| | Total Hours | 452.63 | 414.53 | 501.80 | 467.59 | 462.88 | 436.13 | 516.99 | 512.29 | 461.22 | 476.21 | 472.48 | 507.66 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 51.06% | 57.08% | 58.35% | 65.95% | 71.16% | 70.36% | 83.76% | 76.35% | 79.78% | 75.65% | 65.24% | 52.13% |
| | Idle 1 - Main Eng Idle; APU Off | 156.61 | 146.65 | 169.24 | 143.46 | 110.60 | 123.68 | 69.65 | 107.96 | 75.01 | 105.08 | 162.17 | 228.14 |
| | Idle 2 - Main Eng Off; APU On | 108.00 | 86.65 | 63.06 | 71.06 | 23.19 | 22.01 | 21.53 | 27.28 | 30.48 | 66.55 | 75.91 | 150.62 |
| | Idle 3 - Main Eng Off; APU Off | 112.27 | 152.57 | 189.04 | 216.32 | 258.68 | 280.54 | 357.23 | 329.94 | 297.26 | 298.87 | 246.34 | 138.96 |
| | Idle 4 - Main Eng Idle; APU On | 54.52 | 33.25 | 10.73 | 4.94 | 3.65 | 3.77 | 3.77 | 2.68 | 8.05 | 12.54 | 9.49 | 37.75 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 431.39 | 419.12 | 432.08 | 435.78 | 396.12 | 430.00 | 452.17 | 467.85 | 410.80 | 483.03 | 493.92 | 555.47 |
| | Gal Fuel Saved | 769.58 | 874.62 | 957.78 | 1,097.38 | 1,109.07 | 1,192.51 | 1,497.68 | 1,408.30 | 1,284.51 | 1,407.41 | 1,230.45 | 1,029.09 |
| | Tons $NO_x$ Reduced | 0.233 | 0.256 | 0.273 | 0.312 | 0.309 | 0.332 | 0.416 | 0.392 | 0.359 | 0.398 | 0.350 | 0.308 |
| MD Only | % Idle Management Effectiveness | 53.09% | 54.99% | 65.38% | 64.09% | 76.94% | 73.45% | 85.79% | 77.44% | 78.29% | 80.92% | 68.63% | 48.64% |
| | Idle 1 - Main Eng Idle; APU Off | 58.70 | 102.45 | 99.46 | 90.26 | 55.62 | 71.02 | 32.41 | 70.69 | 44.79 | 54.91 | 127.06 | 192.34 |
| | Idle 2 - Main Eng Off; APU On | 68.91 | 66.13 | 57.66 | 47.18 | 17.75 | 19.45 | 16.19 | 28.53 | 20.31 | 33.71 | 62.29 | 113.42 |
| | Idle 3 - Main Eng Off; APU Off | 48.84 | 95.96 | 141.70 | 118.50 | 179.99 | 182.60 | 195.68 | 223.39 | 159.05 | 249.81 | 231.58 | 94.08 |
| | Idle 4 - Main Eng Idle; APU On | 45.34 | 30.20 | 6.12 | 2.56 | 3.64 | 2.00 | 2.67 | 2.71 | 4.94 | 11.94 | 7.26 | 26.78 |
| | Total Hours | 221.78 | 294.73 | 304.94 | 258.50 | 257.01 | 275.07 | 246.94 | 325.32 | 229.09 | 350.36 | 428.19 | 426.62 |
| | Gal Fuel Saved | 392.61 | 582.26 | 753.70 | 628.60 | 776.29 | 793.48 | 834.52 | 986.27 | 700.11 | 1,102.75 | 1,127.76 | 733.82 |
| | Tons $NO_x$ Reduced | 0.123 | 0.173 | 0.216 | 0.180 | 0.216 | 0.221 | 0.232 | 0.276 | 0.196 | 0.310 | 0.320 | 0.220 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 52.48% | 56.58% | 59.98% | 65.22% | 74.81% | 72.30% | 87.07% | 78.82% | 79.91% | 78.97% | 67.84% | 52.23% |
| | Idle 1 - Main Eng Idle; APU Off | 117.73 | 135.87 | 161.96 | 123.86 | 81.30 | 79.10 | 47.72 | 88.06 | 69.37 | 80.36 | 134.87 | 224.99 |
| | Idle 2 - Main Eng Off; APU On | 105.04 | 77.40 | 66.30 | 67.80 | 20.86 | 15.48 | 19.65 | 26.37 | 24.22 | 58.70 | 70.79 | 149.67 |
| | Idle 3 - Main Eng Off; APU Off | 85.20 | 138.73 | 190.00 | 171.99 | 230.68 | 196.49 | 321.77 | 310.79 | 281.30 | 286.51 | 230.94 | 136.53 |
| | Idle 4 - Main Eng Idle; APU On | 54.51 | 29.99 | 9.06 | 4.03 | 3.40 | 2.12 | 2.97 | 2.54 | 7.43 | 11.56 | 8.16 | 36.79 |
| | Total Hours | 362.47 | 382.00 | 427.32 | 367.68 | 336.23 | 293.19 | 392.10 | 427.76 | 382.33 | 437.12 | 444.76 | 547.99 |

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 3,290.72 | 3,860.08 | 3,965.92 | 3,887.68 | 3,449.60 | 3,123.02 | 2,942.92 | 3,721.45 | 2,973.53 | 4,200.05 | 3,807.98 | 3,404.70 |
| | Idle 2 - Main Eng Off; APU On | 146.87 | 159.93 | 62.20 | 56.77 | 46.08 | 59.88 | 79.45 | 133.03 | 209.30 | 172.97 | 182.60 | 247.40 |
| | Idle 3 - Main Eng Off; APU Off | 290.93 | 347.13 | 461.95 | 722.53 | 1,257.00 | 1,449.02 | 1,576.38 | 1,422.63 | 1,338.70 | 1,283.55 | 629.07 | 358.03 |
| | Idle 4 - Main Eng Idle; APU On | 1,033.88 | 735.40 | 275.18 | 156.37 | 46.13 | 60.80 | 81.45 | 85.48 | 151.10 | 82.22 | 244.12 | 452.15 |
| | Main Eng Wkg; APU On | 1,424.92 | 1,006.07 | 482.33 | 246.22 | 132.95 | 101.37 | 90.63 | 119.02 | 303.57 | 196.67 | 359.23 | 739.22 |
| | Main Eng Wkg; APU Off | 4,400.38 | 4,888.10 | 5,977.10 | 5,655.07 | 5,060.48 | 5,388.73 | 4,556.07 | 5,584.78 | 4,918.12 | 6,063.50 | 5,767.92 | 5,173.22 |
| | Total Hours | 10,587.70 | 10,996.72 | 11,224.68 | 10,724.63 | 9,992.25 | 10,182.82 | 9,326.90 | 11,066.40 | 9,894.32 | 11,998.95 | 10,990.92 | 10,374.72 |
| | Gal Fuel Saved | 941.21 | 1,414.07 | 1,865.16 | 2,970.99 | 5,149.07 | 5,952.81 | 6,512.96 | 6,072.76 | 5,944.77 | 5,651.01 | 2,953.94 | 1,941.84 |
| | Tons $NO_X$ Reduced | 0.607 | 0.681 | 0.843 | 1.169 | 2.021 | 2.346 | 2.586 | 2.437 | 2.424 | 2.213 | 1.215 | 0.918 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 1,753.15 | 1,906.25 | 2,038.97 | 2,008.02 | 1,653.83 | 1,517.55 | 1,548.18 | 2,387.25 | 1,931.57 | 2,643.47 | 2,937.50 | 2,463.95 |
| | Idle 2 - Main Eng Off; APU On | 85.65 | 43.23 | 26.68 | 24.37 | 15.45 | 26.52 | 31.03 | 72.33 | 105.08 | 85.33 | 111.60 | 156.52 |
| | Idle 3 - Main Eng Off; APU Off | 109.82 | 108.72 | 135.33 | 293.55 | 494.08 | 540.02 | 751.05 | 935.82 | 843.12 | 821.50 | 390.20 | 206.40 |
| | Idle 4 - Main Eng Idle; APU On | 627.07 | 290.25 | 101.98 | 78.68 | 35.67 | 33.90 | 66.50 | 31.03 | 97.13 | 59.10 | 146.35 | 327.53 |
| | Total Hours | 5,034.92 | 4,971.67 | 5,365.40 | 4,872.68 | 4,404.33 | 4,231.00 | 4,414.77 | 6,663.92 | 6,187.87 | 7,659.98 | 7,590.50 | 7,118.08 |
| | Gal Fuel Saved | 292.94 | 379.03 | 559.80 | 1,200.97 | 2,003.07 | 2,224.69 | 3,061.43 | 3,961.69 | 3,654.08 | 3,528.25 | 1,830.25 | 1,119.61 |
| | Tons $NO_X$ Reduced | 0.250 | 0.189 | 0.248 | 0.494 | 0.787 | 0.912 | 1.244 | 1.601 | 1.546 | 1.393 | 0.757 | 0.558 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 9,524.60 | 9,375.42 | 8,757.80 | 8,045.82 | 4,277.35 | 4,318.10 | 3,972.10 | 5,240.42 | 4,651.57 | 6,535.02 | 8,301.33 | 11,740.88 |
| | Idle 2 - Main Eng Off; APU On | 4,361.63 | 4,118.03 | 3,543.53 | 2,078.08 | 710.07 | 880.68 | 1,058.40 | 733.05 | 1,435.97 | 2,116.45 | 3,531.97 | 5,508.52 |
| | Idle 3 - Main Eng Off; APU Off | 4,512.62 | 5,431.95 | 7,514.82 | 8,045.62 | 12,932.13 | 13,836.92 | 16,994.57 | 17,680.60 | 16,970.43 | 16,719.83 | 12,141.95 | 6,334.27 |
| | Idle 4 - Main Eng Idle; APU On | 1,964.03 | 1,360.95 | 759.27 | 236.35 | 127.27 | 136.40 | 130.85 | 167.68 | 243.53 | 315.05 | 500.30 | 1,346.12 |
| | Total Hours | 20,362.88 | 20,286.35 | 20,575.42 | 18,405.87 | 18,046.82 | 19,172.10 | 22,155.92 | 23,821.75 | 23,301.50 | 25,686.35 | 24,475.55 | 24,929.78 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 509.03 | 671.45 | 734.62 | 984.25 | 577.72 | 402.53 | 471.30 | 523.43 | 750.85 | 878.83 | 753.60 | 710.18 |
| | Idle 2 - Main Eng Off; APU On | 21.45 | 11.77 | 25.87 | 9.85 | 15.72 | 10.95 | 16.47 | 16.28 | 36.77 | 46.47 | 28.17 | 51.42 |
| | Idle 3 - Main Eng Off; APU Off | 55.68 | 13.67 | 63.45 | 126.17 | 232.70 | 316.27 | 245.23 | 361.27 | 292.68 | 269.32 | 107.13 | 94.70 |
| | Idle 4 - Main Eng Idle; APU On | 220.82 | 166.68 | 91.75 | 7.32 | 10.92 | 2.55 | 5.28 | 63.82 | 7.17 | 9.22 | 89.15 | 30.20 |
| | Main Eng Wkg; APU On | 368.53 | 228.28 | 232.47 | 17.73 | 20.07 | 6.50 | 12.07 | 84.02 | 36.25 | 21.73 | 129.52 | 88.87 |
| | Main Eng Wkg; APU Off | 835.00 | 1,038.27 | 1,439.77 | 1,441.27 | 1,051.13 | 1,163.57 | 1,016.38 | 1,018.60 | 1,219.18 | 1,352.22 | 1,195.02 | 1,156.20 |
| | Total Hours | 2,010.52 | 2,130.12 | 2,587.92 | 2,586.58 | 1,908.25 | 1,902.37 | 1,766.73 | 2,067.42 | 2,342.90 | 2,577.78 | 2,302.58 | 2,131.57 |
| | Gal Fuel Saved | 142.34 | -20.68 | 276.58 | 532.29 | 975.40 | 1,299.61 | 1,031.88 | 1,455.25 | 1,287.66 | 1,224.93 | 460.72 | 528.48 |
| | Tons $NO_X$ Reduced | 0.128 | 0.037 | 0.158 | 0.250 | 0.457 | 0.604 | 0.482 | 0.693 | 0.606 | 0.580 | 0.243 | 0.265 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 126.72 | 208.63 | 345.22 | 429.58 | 133.67 | 166.20 | 233.80 | 266.70 | 416.02 | 432.22 | 469.75 | 281.83 |
| | Idle 2 - Main Eng Off; APU On | 9.82 | 4.65 | 7.90 | 6.32 | 4.38 | 4.83 | 15.00 | 8.25 | 15.28 | 10.70 | 14.03 | 15.82 |
| | Idle 3 - Main Eng Off; APU Off | 5.92 | 6.03 | 19.12 | 47.97 | 64.92 | 68.53 | 71.52 | 188.42 | 105.03 | 157.82 | 65.45 | 54.83 |
| | Idle 4 - Main Eng Idle; APU On | 75.37 | 26.78 | 30.37 | 3.83 | 9.58 | 1.37 | 3.27 | 20.80 | 3.30 | 5.93 | 19.50 | 9.38 |
| | Total Hours | 560.53 | 717.77 | 1,106.28 | 1,109.67 | 503.92 | 746.08 | 706.70 | 1,005.93 | 1,101.82 | 1,301.00 | 1,255.10 | 927.18 |
| | Gal Fuel Saved | 4.50 | 21.17 | 81.82 | 210.17 | 267.62 | 289.21 | 333.54 | 766.74 | 468.52 | 662.66 | 294.93 | 265.31 |
| | Tons $NO_X$ Reduced | 0.024 | 0.018 | 0.048 | 0.100 | 0.127 | 0.135 | 0.159 | 0.362 | 0.221 | 0.310 | 0.145 | 0.129 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,345.10 | 2,575.62 | 2,538.42 | 2,351.15 | 1,013.83 | 1,187.92 | 1,036.15 | 1,158.40 | 1,178.38 | 1,620.83 | 2,198.17 | 3,328.33 |
| | Idle 2 - Main Eng Off; APU On | 845.80 | 1,098.07 | 807.90 | 618.37 | 223.62 | 237.40 | 386.15 | 120.83 | 336.25 | 459.43 | 841.05 | 899.23 |
| | Idle 3 - Main Eng Off; APU Off | 301.13 | 529.13 | 930.57 | 1,365.32 | 2,337.12 | 3,446.92 | 3,563.67 | 3,703.33 | 3,507.90 | 3,334.22 | 2,498.68 | 806.25 |
| | Idle 4 - Main Eng Idle; APU On | 465.65 | 464.37 | 305.85 | 32.20 | 23.88 | 19.88 | 31.62 | 78.55 | 44.02 | 62.50 | 173.78 | 209.08 |
| | Total Hours | 3,957.68 | 4,667.18 | 4,582.73 | 4,367.03 | 3,598.45 | 4,892.12 | 5,017.58 | 5,061.12 | 5,066.55 | 5,476.98 | 5,711.68 | 5,242.90 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 1,655.92 | 1,734.02 | 1,743.55 | 1,501.17 | 1,510.20 | 1,681.38 | 1,524.65 | 1,797.48 | 1,320.68 | 1,826.17 | 1,614.58 | 1,521.35 |
| | Idle 2 - Main Eng Off; APU On | 78.08 | 98.88 | 23.28 | 24.17 | 14.12 | 35.72 | 28.50 | 36.85 | 33.28 | 68.05 | 59.50 | 105.08 |
| | Idle 3 - Main Eng Off; APU Off | 156.00 | 151.00 | 298.70 | 328.70 | 646.25 | 622.70 | 703.52 | 600.95 | 666.67 | 548.65 | 235.53 | 111.07 |
| | Idle 4 - Main Eng Idle; APU On | 314.75 | 313.73 | 113.45 | 104.42 | 10.23 | 5.78 | 12.30 | 15.58 | 13.28 | 29.35 | 42.73 | 198.12 |
| | Main Eng Wkg; APU On | 392.65 | 437.87 | 141.70 | 163.02 | 35.82 | 11.00 | 13.12 | 15.00 | 26.05 | 52.50 | 91.20 | 245.23 |
| | Main Eng Wkg; APU Off | 1,808.57 | 2,046.07 | 2,263.23 | 1,923.93 | 1,990.17 | 2,107.73 | 1,796.08 | 2,584.30 | 1,979.72 | 2,843.47 | 2,628.90 | 2,521.63 |
| | Total Hours | 4,405.97 | 4,781.57 | 4,583.92 | 4,045.40 | 4,206.78 | 4,464.32 | 4,078.17 | 5,050.17 | 4,039.68 | 5,368.18 | 4,672.45 | 4,702.48 |
| | Gal Fuel Saved | 666.85 | 716.48 | 1,194.13 | 1,323.26 | 2,624.76 | 2,605.20 | 2,900.08 | 2,515.23 | 2,767.86 | 2,399.98 | 1,110.00 | 656.60 |
| | Tons $NO_X$ Reduced | 0.352 | 0.393 | 0.539 | 0.544 | 1.038 | 1.063 | 1.190 | 1.015 | 1.120 | 0.950 | 0.469 | 0.345 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 905.03 | 591.38 | 459.77 | 498.72 | 632.05 | 725.08 | 690.77 | 1,039.23 | 869.48 | 1,166.13 | 1,308.00 | 1,203.53 |
| | Idle 2 - Main Eng Off; APU On | 43.15 | 14.77 | 8.83 | 7.03 | 1.52 | 16.88 | 6.77 | 18.95 | 11.77 | 44.28 | 35.37 | 72.63 |
| | Idle 3 - Main Eng Off; APU Off | 77.33 | 41.45 | 52.62 | 104.42 | 202.55 | 255.05 | 309.83 | 426.80 | 521.30 | 347.55 | 188.77 | 71.88 |
| | Idle 4 - Main Eng Idle; APU On | 138.00 | 81.63 | 11.70 | 38.55 | 3.33 | 0.78 | 5.95 | 4.88 | 7.62 | 18.18 | 23.10 | 131.27 |
| | Total Hours | 2,048.93 | 1,500.15 | 1,311.22 | 1,253.38 | 1,604.08 | 1,769.52 | 1,792.62 | 2,958.90 | 2,820.18 | 3,535.18 | 3,675.37 | 3,534.30 |
| | Gal Fuel Saved | 357.66 | 158.74 | 231.71 | 414.53 | 812.94 | 1,075.61 | 1,257.68 | 1,766.65 | 2,118.97 | 1,524.48 | 856.43 | 438.19 |
| | Tons $NO_X$ Reduced | 0.169 | 0.076 | 0.096 | 0.170 | 0.329 | 0.442 | 0.512 | 0.705 | 0.871 | 0.598 | 0.350 | 0.228 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 4,533.30 | 3,641.02 | 2,898.73 | 2,727.95 | 1,402.18 | 1,674.42 | 1,828.55 | 2,354.18 | 2,094.45 | 3,078.58 | 3,434.40 | 4,476.87 |
| | Idle 2 - Main Eng Off; APU On | 1,792.10 | 1,693.73 | 1,494.33 | 579.52 | 206.92 | 181.90 | 296.30 | 242.75 | 608.32 | 785.12 | 1,384.73 | 2,079.00 |
| | Idle 3 - Main Eng Off; APU Off | 2,352.22 | 2,346.73 | 3,113.57 | 3,315.27 | 5,524.57 | 6,119.35 | 7,447.15 | 8,260.08 | 8,047.42 | 7,697.20 | 5,158.43 | 2,528.53 |
| | Idle 4 - Main Eng Idle; APU On | 571.95 | 452.05 | 272.90 | 98.52 | 39.70 | 26.32 | 26.40 | 39.98 | 50.62 | 69.55 | 141.77 | 472.95 |
| | Total Hours | 9,249.57 | 8,133.53 | 7,779.53 | 6,721.25 | 7,173.37 | 8,001.98 | 9,598.40 | 10,897.00 | 10,800.80 | 11,630.45 | 10,119.33 | 9,557.35 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 514.90 | 727.20 | 707.33 | 759.93 | 651.70 | 423.58 | 509.35 | 651.63 | 432.12 | 749.70 | 587.78 | 488.72 |
| | Idle 2 - Main Eng Off; APU On | 11.93 | 2.45 | 2.15 | 6.58 | 0.92 | 3.03 | 25.70 | 3.42 | 44.90 | 10.50 | 38.57 | 47.87 |
| | Idle 3 - Main Eng Off; APU Off | 13.05 | 16.45 | 34.08 | 73.23 | 125.05 | 139.68 | 228.63 | 182.87 | 145.63 | 138.97 | 88.60 | 30.80 |
| | Idle 4 - Main Eng Idle; APU On | 218.78 | 44.90 | 43.92 | 32.12 | 2.75 | 35.77 | 58.77 | 1.78 | 62.62 | 5.22 | 86.47 | 101.17 |
| | Main Eng Wkg; APU On | 211.15 | 43.30 | 54.73 | 36.77 | 7.03 | 36.12 | 49.02 | 5.83 | 67.18 | 13.53 | 47.95 | 114.63 |
| | Main Eng Wkg; APU Off | 554.05 | 744.15 | 805.18 | 762.22 | 801.00 | 587.92 | 628.27 | 752.42 | 603.02 | 932.62 | 693.57 | 639.07 |
| | Total Hours | 1,523.87 | 1,578.45 | 1,647.40 | 1,670.85 | 1,588.45 | 1,226.10 | 1,499.73 | 1,597.95 | 1,355.47 | 1,850.53 | 1,542.93 | 1,422.25 |
| | Gal Fuel Saved | -58.34 | 43.12 | 113.33 | 292.72 | 501.35 | 544.25 | 959.39 | 741.57 | 688.38 | 587.09 | 422.89 | 212.43 |
| | Tons $NO_X$ Reduced | 0.033 | 0.032 | 0.064 | 0.145 | 0.233 | 0.261 | 0.465 | 0.344 | 0.346 | 0.275 | 0.228 | 0.137 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 514.90 | 716.47 | 699.33 | 743.12 | 607.60 | 385.87 | 482.37 | 641.95 | 431.02 | 736.62 | 514.30 | 465.12 |
| | Idle 2 - Main Eng Off; APU On | 11.93 | 2.45 | 2.15 | 6.58 | 0.92 | 2.78 | 4.43 | 3.42 | 44.68 | 10.40 | 35.97 | 42.48 |
| | Idle 3 - Main Eng Off; APU Off | 12.55 | 15.20 | 34.08 | 73.23 | 97.38 | 123.30 | 208.95 | 176.80 | 141.67 | 132.18 | 36.02 | 28.98 |
| | Idle 4 - Main Eng Idle; APU On | 218.78 | 44.90 | 43.92 | 32.12 | 2.75 | 29.02 | 55.25 | 1.78 | 62.62 | 4.92 | 86.47 | 97.17 |
| | Total Hours | 1,523.37 | 1,553.78 | 1,620.85 | 1,618.58 | 1,434.60 | 1,073.23 | 1,393.68 | 1,568.30 | 1,345.52 | 1,797.30 | 1,350.43 | 1,326.98 |
| | Gal Fuel Saved | -60.34 | 38.12 | 113.33 | 292.72 | 390.68 | 482.52 | 812.59 | 717.30 | 671.79 | 559.83 | 203.94 | 190.07 |
| | Tons $NO_X$ Reduced | 0.032 | 0.030 | 0.064 | 0.145 | 0.181 | 0.231 | 0.391 | 0.333 | 0.338 | 0.263 | 0.126 | 0.124 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,528.35 | 1,539.05 | 1,604.30 | 885.75 | 585.70 | 630.25 | 847.23 | 615.70 | 871.33 | 1,050.37 | 1,235.78 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 291.08 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 734.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 891.35 | 1,380.72 | 1,473.18 | 2,302.28 | 2,109.28 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,713.52 | 1,361.08 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 66.87 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.55 |
| | Total Hours | 3,168.43 | 2,901.68 | 3,512.60 | 3,273.15 | 3,240.18 | 3,052.93 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,307.38 | 3,553.65 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 610.87 | 727.42 | 780.42 | 642.33 | 709.98 | 615.52 | 437.62 | 748.90 | 469.88 | 745.35 | 852.02 | 684.45 |
| | Idle 2 - Main Eng Off; APU On | 35.40 | 46.83 | 10.90 | 16.17 | 15.33 | 10.18 | 8.78 | 76.48 | 94.35 | 47.95 | 56.37 | 43.03 |
| | Idle 3 - Main Eng Off; APU Off | 66.20 | 166.02 | 65.72 | 194.43 | 253.00 | 370.37 | 399.00 | 277.55 | 233.72 | 326.62 | 197.80 | 121.47 |
| | Idle 4 - Main Eng Idle; APU On | 279.53 | 210.08 | 26.07 | 12.52 | 22.23 | 16.70 | 5.10 | 4.30 | 68.03 | 38.43 | 25.77 | 122.67 |
| | Main Eng Wkg; APU On | 452.58 | 296.62 | 53.43 | 28.70 | 70.03 | 47.75 | 16.43 | 14.17 | 174.08 | 108.90 | 90.57 | 290.48 |
| | Main Eng Wkg; APU Off | 1,202.77 | 1,059.62 | 1,468.92 | 1,527.65 | 1,218.18 | 1,529.52 | 1,115.33 | 1,229.47 | 1,116.20 | 935.20 | 1,250.43 | 856.32 |
| | Total Hours | 2,647.35 | 2,506.58 | 2,405.45 | 2,421.80 | 2,288.77 | 2,590.03 | 1,982.27 | 2,350.87 | 2,156.27 | 2,202.45 | 2,472.95 | 2,118.42 |
| | Gal Fuel Saved | 190.36 | 675.16 | 281.11 | 822.72 | 1,047.56 | 1,503.76 | 1,621.61 | 1,360.72 | 1,200.87 | 1,439.01 | 960.32 | 544.33 |
| | Tons $NO_X$ Reduced | 0.093 | 0.219 | 0.082 | 0.230 | 0.293 | 0.417 | 0.448 | 0.385 | 0.352 | 0.407 | 0.275 | 0.171 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 206.50 | 389.77 | 534.65 | 336.60 | 280.52 | 240.40 | 141.25 | 439.37 | 215.05 | 308.50 | 645.45 | 513.47 |
| | Idle 2 - Main Eng Off; APU On | 20.75 | 21.37 | 7.80 | 4.43 | 8.63 | 2.02 | 4.83 | 41.72 | 33.35 | 19.95 | 26.23 | 25.58 |
| | Idle 3 - Main Eng Off; APU Off | 14.02 | 46.03 | 29.52 | 67.93 | 129.23 | 93.13 | 160.75 | 143.80 | 75.12 | 183.95 | 99.97 | 50.70 |
| | Idle 4 - Main Eng Idle; APU On | 194.92 | 136.93 | 16.00 | 4.18 | 20.00 | 2.73 | 2.03 | 3.57 | 23.60 | 30.07 | 17.28 | 89.72 |
| | Total Hours | 902.08 | 1,199.97 | 1,327.05 | 891.05 | 861.73 | 642.17 | 521.77 | 1,130.78 | 920.35 | 1,026.50 | 1,309.60 | 1,329.62 |
| | Gal Fuel Saved | -8.88 | 161.01 | 132.94 | 283.56 | 531.82 | 377.34 | 657.62 | 711.00 | 394.80 | 781.29 | 474.95 | 226.04 |
| | Tons $NO_X$ Reduced | 0.026 | 0.065 | 0.040 | 0.079 | 0.150 | 0.104 | 0.182 | 0.202 | 0.116 | 0.222 | 0.136 | 0.077 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,295.02 | 1,630.43 | 1,781.60 | 1,362.42 | 975.58 | 870.07 | 477.15 | 880.60 | 763.03 | 964.27 | 1,618.40 | 2,699.90 |
| | Idle 2 - Main Eng Off; APU On | 1,155.42 | 928.85 | 729.33 | 745.85 | 250.28 | 170.30 | 196.47 | 263.73 | 266.47 | 704.40 | 849.53 | 1,796.05 |
| | Idle 3 - Main Eng Off; APU Off | 937.20 | 1,664.73 | 2,089.97 | 1,891.85 | 2,768.17 | 2,161.37 | 3,217.70 | 3,107.87 | 3,094.35 | 3,438.10 | 2,771.32 | 1,638.40 |
| | Idle 4 - Main Eng Idle; APU On | 599.57 | 359.93 | 99.65 | 44.32 | 40.78 | 23.33 | 29.67 | 25.38 | 81.77 | 138.68 | 97.90 | 441.53 |
| | Total Hours | 3,987.20 | 4,583.95 | 4,700.55 | 4,044.43 | 4,034.82 | 3,225.07 | 3,920.98 | 4,277.58 | 4,205.62 | 5,245.45 | 5,337.15 | 6,575.88 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 9.19% | 9.94% | 11.00% | 16.16% | 27.15% | 32.15% | 35.38% | 29.01% | 33.13% | 25.38% | 16.69% | 13.57% |
| | Idle 1 - Main Eng Idle; APU Off | 60.94 | 70.18 | 70.82 | 73.35 | 67.64 | 61.24 | 60.06 | 71.57 | 56.10 | 76.36 | 69.24 | 63.05 |
| | Idle 2 - Main Eng Off; APU On | 2.72 | 2.91 | 1.11 | 1.07 | 0.90 | 1.17 | 1.62 | 2.56 | 3.95 | 3.14 | 3.32 | 4.58 |
| | Idle 3 - Main Eng Off; APU Off | 5.39 | 6.31 | 8.25 | 13.63 | 24.65 | 28.41 | 32.17 | 27.36 | 25.26 | 23.34 | 11.44 | 6.63 |
| | Idle 4 - Main Eng Idle; APU On | 19.15 | 13.37 | 4.91 | 2.95 | 0.90 | 1.19 | 1.66 | 1.64 | 2.85 | 1.49 | 4.44 | 8.37 |
| | Main Eng Wkg; APU On | 26.39 | 18.29 | 8.61 | 4.65 | 2.61 | 1.99 | 1.85 | 2.29 | 5.73 | 3.58 | 6.53 | 13.69 |
| | Main Eng Wkg; APU Off | 81.49 | 88.87 | 106.73 | 106.70 | 99.23 | 105.66 | 92.98 | 107.40 | 92.79 | 110.25 | 104.87 | 95.80 |
| | Total Hours | 196.07 | 199.94 | 200.44 | 202.35 | 195.93 | 199.66 | 190.34 | 212.82 | 186.69 | 218.16 | 199.83 | 192.12 |
| | Gal Fuel Saved | 17.43 | 25.71 | 33.31 | 56.06 | 100.96 | 116.72 | 132.92 | 116.78 | 112.17 | 102.75 | 53.71 | 35.96 |
| | Tons $NO_x$ Reduced | 0.011 | 0.012 | 0.015 | 0.022 | 0.040 | 0.046 | 0.053 | 0.047 | 0.046 | 0.040 | 0.022 | 0.017 |
| MD Only | % Idle Management Effectiveness | 7.59% | 6.47% | 7.04% | 13.22% | 23.17% | 26.75% | 32.63% | 29.42% | 31.85% | 25.12% | 13.99% | 11.51% |
| | Idle 1 - Main Eng Idle; APU Off | 40.77 | 40.56 | 45.31 | 43.65 | 37.59 | 37.94 | 34.40 | 49.73 | 36.44 | 49.88 | 54.40 | 47.38 |
| | Idle 2 - Main Eng Off; APU On | 1.99 | 0.92 | 0.59 | 0.53 | 0.35 | 0.66 | 0.69 | 1.51 | 1.98 | 1.61 | 2.07 | 3.01 |
| | Idle 3 - Main Eng Off; APU Off | 2.55 | 2.31 | 3.01 | 6.38 | 11.23 | 13.50 | 16.69 | 19.50 | 15.91 | 15.50 | 7.23 | 3.97 |
| | Idle 4 - Main Eng Idle; APU On | 14.58 | 6.18 | 2.27 | 1.71 | 0.81 | 0.85 | 1.48 | 0.65 | 1.83 | 1.12 | 2.71 | 6.30 |
| | Total Hours | 117.09 | 105.78 | 119.23 | 105.93 | 100.10 | 105.78 | 98.11 | 138.83 | 116.75 | 144.53 | 140.56 | 136.89 |
| | Gal Fuel Saved | 6.81 | 8.06 | 12.44 | 26.11 | 45.52 | 55.62 | 68.03 | 82.54 | 68.94 | 66.57 | 33.89 | 21.53 |
| | Tons $NO_x$ Reduced | 0.006 | 0.004 | 0.006 | 0.011 | 0.018 | 0.023 | 0.028 | 0.033 | 0.029 | 0.026 | 0.014 | 0.011 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 43.58% | 47.08% | 53.75% | 55.00% | 75.59% | 76.77% | 81.48% | 77.30% | 78.99% | 73.33% | 64.04% | 47.50% |
| | Idle 1 - Main Eng Idle; APU Off | 186.76 | 176.89 | 168.42 | 164.20 | 87.29 | 86.36 | 81.06 | 100.78 | 87.77 | 118.82 | 150.93 | 221.53 |
| | Idle 2 - Main Eng Off; APU On | 85.52 | 77.70 | 68.14 | 42.41 | 14.49 | 17.61 | 21.60 | 14.10 | 27.09 | 38.48 | 64.22 | 103.93 |
| | Idle 3 - Main Eng Off; APU Off | 88.48 | 102.49 | 144.52 | 164.20 | 263.92 | 276.74 | 346.83 | 340.01 | 320.20 | 304.00 | 220.76 | 119.51 |
| | Idle 4 - Main Eng Idle; APU On | 38.51 | 25.68 | 14.60 | 4.82 | 2.60 | 2.73 | 2.67 | 3.22 | 4.59 | 5.73 | 9.10 | 25.40 |
| | Total Hours | 399.27 | 382.76 | 395.68 | 375.63 | 368.30 | 383.44 | 452.16 | 458.11 | 439.65 | 467.02 | 445.01 | 470.37 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 9.56% | 2.95% | 9.75% | 12.06% | 29.68% | 44.68% | 35.45% | 39.13% | 30.30% | 26.23% | 13.83% | 16.48% |
| | Idle 1 - Main Eng Idle; APU Off | 46.28 | 55.95 | 56.51 | 75.71 | 52.52 | 36.59 | 42.85 | 43.62 | 68.26 | 73.24 | 62.80 | 59.18 |
| | Idle 2 - Main Eng Off; APU On | 1.95 | 0.98 | 1.99 | 0.76 | 1.43 | 1.00 | 1.50 | 1.36 | 3.34 | 3.87 | 2.35 | 4.28 |
| | Idle 3 - Main Eng Off; APU Off | 5.06 | 1.14 | 4.88 | 9.71 | 21.15 | 28.75 | 22.29 | 30.11 | 26.61 | 22.44 | 8.93 | 7.89 |
| | Idle 4 - Main Eng Idle; APU On | 20.07 | 13.89 | 7.06 | 0.56 | 0.99 | 0.23 | 0.48 | 5.32 | 0.65 | 0.77 | 7.43 | 2.52 |
| | Main Eng Wkg; APU On | 33.50 | 19.02 | 17.88 | 1.36 | 1.82 | 0.59 | 1.10 | 7.00 | 3.30 | 1.81 | 10.79 | 7.41 |
| | Main Eng Wkg; APU Off | 75.91 | 86.52 | 110.75 | 110.87 | 95.56 | 105.78 | 92.40 | 84.88 | 110.83 | 112.68 | 99.58 | 96.35 |
| | Total Hours | 182.77 | 177.51 | 199.07 | 198.97 | 173.48 | 172.94 | 160.61 | 172.28 | 212.99 | 214.82 | 191.88 | 177.63 |
| | Gal Fuel Saved | 12.94 | -1.72 | 21.28 | 40.95 | 88.67 | 118.15 | 93.81 | 121.27 | 117.06 | 102.08 | 38.39 | 44.04 |
| | Tons $NO_x$ Reduced | 0.012 | 0.003 | 0.012 | 0.019 | 0.042 | 0.055 | 0.044 | 0.058 | 0.055 | 0.048 | 0.020 | 0.022 |
| MD Only | % Idle Management Effectiveness | 7.22% | 4.34% | 6.71% | 11.13% | 32.60% | 30.45% | 26.74% | 40.62% | 22.30% | 27.78% | 13.98% | 19.52% |
| | Idle 1 - Main Eng Idle; APU Off | 14.08 | 18.97 | 26.56 | 42.96 | 13.37 | 16.62 | 29.23 | 26.67 | 37.82 | 36.02 | 39.15 | 23.49 |
| | Idle 2 - Main Eng Off; APU On | 1.09 | 0.42 | 0.61 | 0.63 | 0.44 | 0.48 | 1.88 | 0.83 | 1.39 | 0.89 | 1.17 | 1.32 |
| | Idle 3 - Main Eng Off; APU Off | 0.66 | 0.55 | 1.47 | 4.80 | 6.49 | 6.85 | 8.94 | 18.84 | 9.55 | 13.15 | 5.45 | 4.57 |
| | Idle 4 - Main Eng Idle; APU On | 8.37 | 2.43 | 2.34 | 0.38 | 0.96 | 0.14 | 0.41 | 2.08 | 0.30 | 0.49 | 1.63 | 0.78 |
| | Total Hours | 62.28 | 65.25 | 85.10 | 110.97 | 50.39 | 74.61 | 88.34 | 100.59 | 100.17 | 108.42 | 104.59 | 77.27 |
| | Gal Fuel Saved | 0.50 | 1.92 | 6.29 | 21.02 | 26.76 | 28.92 | 41.69 | 76.67 | 42.59 | 55.22 | 24.58 | 22.11 |
| | Tons $NO_x$ Reduced | 0.003 | 0.002 | 0.004 | 0.010 | 0.013 | 0.014 | 0.020 | 0.036 | 0.020 | 0.026 | 0.012 | 0.011 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 28.98% | 34.86% | 37.94% | 45.42% | 71.16% | 75.31% | 78.72% | 75.56% | 75.87% | 69.27% | 58.47% | 32.53% |
| | Idle 1 - Main Eng Idle; APU Off | 213.19 | 214.63 | 195.26 | 213.74 | 92.17 | 107.99 | 94.20 | 96.53 | 107.13 | 135.07 | 183.18 | 277.36 |
| | Idle 2 - Main Eng Off; APU On | 76.89 | 91.51 | 62.15 | 56.22 | 20.33 | 21.58 | 35.10 | 10.07 | 30.57 | 38.29 | 70.09 | 74.94 |
| | Idle 3 - Main Eng Off; APU Off | 27.38 | 44.09 | 71.58 | 124.12 | 212.47 | 313.36 | 323.97 | 308.61 | 318.90 | 277.85 | 208.22 | 67.19 |
| | Idle 4 - Main Eng Idle; APU On | 42.33 | 38.70 | 23.53 | 2.93 | 2.17 | 1.81 | 2.87 | 6.55 | 4.00 | 5.21 | 14.48 | 17.42 |
| | Total Hours | 359.79 | 388.93 | 352.52 | 397.00 | 327.13 | 444.74 | 456.14 | 421.76 | 460.60 | 456.42 | 475.97 | 436.91 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 10.62% | 10.88% | 14.78% | 18.02% | 30.28% | 28.07% | 32.26% | 26.02% | 34.41% | 24.95% | 15.11% | 11.17% |
| | Idle 1 - Main Eng Idle; APU Off | 69.00 | 72.25 | 72.65 | 68.23 | 71.91 | 76.43 | 72.60 | 78.15 | 55.03 | 76.09 | 67.27 | 66.15 |
| | Idle 2 - Main Eng Off; APU On | 3.25 | 4.12 | 0.97 | 1.10 | 0.67 | 1.62 | 1.36 | 1.60 | 1.39 | 2.84 | 2.48 | 4.57 |
| | Idle 3 - Main Eng Off; APU Off | 6.50 | 6.29 | 12.45 | 14.94 | 30.77 | 28.30 | 33.50 | 26.13 | 27.78 | 22.86 | 9.81 | 4.83 |
| | Idle 4 - Main Eng Idle; APU On | 13.11 | 13.07 | 4.73 | 4.75 | 0.49 | 0.26 | 0.59 | 0.68 | 0.55 | 1.22 | 1.78 | 8.61 |
| | Main Eng Wkg; APU On | 16.36 | 18.24 | 5.90 | 7.41 | 1.71 | 0.50 | 0.62 | 0.65 | 1.09 | 2.19 | 3.80 | 10.66 |
| | Main Eng Wkg; APU Off | 75.36 | 85.25 | 94.30 | 87.45 | 94.77 | 95.81 | 85.53 | 112.36 | 82.49 | 118.48 | 109.54 | 109.64 |
| | Total Hours | 183.58 | 199.23 | 191.00 | 183.88 | 200.32 | 202.92 | 194.20 | 219.57 | 168.32 | 223.67 | 194.69 | 204.46 |
| | Gal Fuel Saved | 27.79 | 29.85 | 49.76 | 60.15 | 124.99 | 118.42 | 138.10 | 109.36 | 115.33 | 100.00 | 46.25 | 28.55 |
| | Tons $NO_x$ Reduced | 0.015 | 0.016 | 0.022 | 0.025 | 0.049 | 0.048 | 0.057 | 0.044 | 0.047 | 0.040 | 0.020 | 0.015 |
| MD Only | % Idle Management Effectiveness | 10.36% | 7.71% | 11.53% | 17.18% | 24.31% | 27.25% | 31.24% | 29.92% | 37.80% | 24.86% | 14.41% | 9.77% |
| | Idle 1 - Main Eng Idle; APU Off | 53.24 | 31.13 | 30.65 | 26.25 | 37.18 | 42.65 | 34.54 | 47.24 | 36.23 | 48.59 | 54.50 | 57.31 |
| | Idle 2 - Main Eng Off; APU On | 2.54 | 0.78 | 0.59 | 0.37 | 0.09 | 0.99 | 0.34 | 0.86 | 0.49 | 1.85 | 1.47 | 3.46 |
| | Idle 3 - Main Eng Off; APU Off | 4.55 | 2.18 | 3.51 | 5.50 | 11.91 | 15.00 | 15.49 | 19.40 | 21.72 | 14.48 | 7.87 | 3.42 |
| | Idle 4 - Main Eng Idle; APU On | 8.12 | 4.30 | 0.78 | 2.03 | 0.20 | 0.05 | 0.30 | 0.22 | 0.32 | 0.76 | 0.96 | 6.25 |
| | Total Hours | 120.53 | 78.96 | 87.41 | 65.97 | 94.36 | 104.09 | 89.63 | 134.50 | 117.51 | 147.30 | 153.14 | 168.30 |
| | Gal Fuel Saved | 21.04 | 8.35 | 15.45 | 21.82 | 47.82 | 63.27 | 62.88 | 80.30 | 88.29 | 63.52 | 35.68 | 20.87 |
| | Tons $NO_x$ Reduced | 0.010 | 0.004 | 0.006 | 0.009 | 0.019 | 0.026 | 0.026 | 0.032 | 0.036 | 0.025 | 0.015 | 0.011 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 44.81% | 49.68% | 59.23% | 57.95% | 79.90% | 78.75% | 80.67% | 78.03% | 80.14% | 72.93% | 64.66% | 48.21% |
| | Idle 1 - Main Eng Idle; APU Off | 206.06 | 165.50 | 138.03 | 136.40 | 73.80 | 79.73 | 87.07 | 102.36 | 87.27 | 128.27 | 143.10 | 203.49 |
| | Idle 2 - Main Eng Off; APU On | 81.46 | 76.99 | 71.16 | 28.98 | 10.89 | 8.66 | 14.11 | 10.55 | 25.35 | 32.71 | 57.70 | 94.50 |
| | Idle 3 - Main Eng Off; APU Off | 106.92 | 106.67 | 148.27 | 165.76 | 290.77 | 291.40 | 354.63 | 359.13 | 335.31 | 320.72 | 214.93 | 114.93 |
| | Idle 4 - Main Eng Idle; APU On | 26.00 | 20.55 | 13.00 | 4.93 | 2.09 | 1.25 | 1.26 | 1.74 | 2.11 | 2.90 | 5.91 | 21.50 |
| | Total Hours | 420.43 | 369.71 | 370.45 | 336.06 | 377.55 | 381.05 | 457.07 | 473.78 | 450.03 | 484.60 | 421.64 | 434.42 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 3.29% | 2.39% | 4.60% | 9.15% | 16.14% | 23.70% | 30.92% | 22.18% | 27.80% | 16.53% | 15.87% | 11.77% |
| | Idle 1 - Main Eng Idle; APU Off | 73.56 | 103.89 | 101.05 | 108.56 | 93.10 | 60.51 | 72.76 | 93.09 | 61.73 | 107.10 | 83.97 | 69.82 |
| | Idle 2 - Main Eng Off; APU On | 1.70 | 0.35 | 0.31 | 0.94 | 0.13 | 0.43 | 3.67 | 0.49 | 6.41 | 1.50 | 5.51 | 6.84 |
| | Idle 3 - Main Eng Off; APU Off | 1.86 | 2.35 | 4.87 | 10.46 | 17.86 | 19.95 | 32.66 | 26.12 | 20.80 | 19.85 | 12.66 | 4.40 |
| | Idle 4 - Main Eng Idle; APU On | 31.25 | 6.41 | 6.27 | 4.59 | 0.39 | 5.11 | 8.40 | 0.25 | 8.95 | 0.75 | 12.35 | 14.45 |
| | Main Eng Wkg; APU On | 30.16 | 6.19 | 7.82 | 5.25 | 1.00 | 5.16 | 7.00 | 0.83 | 9.60 | 1.93 | 6.85 | 16.38 |
| | Main Eng Wkg; APU Off | 79.15 | 106.31 | 115.03 | 108.89 | 114.43 | 83.99 | 89.75 | 107.49 | 86.15 | 133.23 | 99.08 | 91.30 |
| | Total Hours | 217.70 | 225.49 | 235.34 | 238.69 | 226.92 | 175.16 | 214.25 | 228.28 | 193.64 | 264.36 | 220.42 | 203.18 |
| | Gal Fuel Saved | -8.33 | 6.16 | 16.19 | 41.82 | 71.62 | 77.75 | 137.06 | 105.94 | 98.34 | 83.87 | 60.41 | 30.35 |
| | Tons $NO_x$ Reduced | 0.005 | 0.005 | 0.009 | 0.021 | 0.033 | 0.037 | 0.066 | 0.049 | 0.049 | 0.039 | 0.033 | 0.020 |
| MD Only | % Idle Management Effectiveness | 3.23% | 2.27% | 4.65% | 9.33% | 13.87% | 23.31% | 28.41% | 21.87% | 27.41% | 16.13% | 10.70% | 11.28% |
| | Idle 1 - Main Eng Idle; APU Off | 73.56 | 102.35 | 99.90 | 106.16 | 86.80 | 64.31 | 68.91 | 91.71 | 61.57 | 105.23 | 73.47 | 66.45 |
| | Idle 2 - Main Eng Off; APU On | 1.70 | 0.35 | 0.31 | 0.94 | 0.13 | 0.46 | 0.63 | 0.49 | 6.38 | 1.49 | 5.14 | 6.07 |
| | Idle 3 - Main Eng Off; APU Off | 1.79 | 2.17 | 4.87 | 10.46 | 13.91 | 20.55 | 29.85 | 25.26 | 20.24 | 18.88 | 5.15 | 4.14 |
| | Idle 4 - Main Eng Idle; APU On | 31.25 | 6.41 | 6.27 | 4.59 | 0.39 | 4.84 | 7.89 | 0.25 | 8.95 | 0.70 | 12.35 | 13.88 |
| | Total Hours | 217.62 | 221.97 | 231.55 | 231.23 | 204.94 | 178.87 | 199.10 | 224.04 | 192.22 | 256.76 | 192.92 | 189.57 |
| | Gal Fuel Saved | -8.62 | 5.45 | 16.19 | 41.82 | 55.81 | 80.42 | 116.08 | 102.47 | 95.97 | 79.98 | 29.13 | 27.15 |
| | Tons $NO_x$ Reduced | 0.005 | 0.004 | 0.009 | 0.021 | 0.026 | 0.039 | 0.056 | 0.048 | 0.048 | 0.038 | 0.018 | 0.018 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 47.04% | 44.41% | 53.88% | 49.11% | 71.96% | 78.62% | 81.39% | 75.71% | 78.85% | 72.53% | 65.62% | 58.96% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 218.34 | 219.86 | 229.19 | 126.54 | 83.67 | 90.04 | 121.03 | 87.96 | 124.48 | 150.05 | 176.54 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 41.58 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 104.89 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 127.34 | 197.25 | 210.45 | 328.90 | 301.33 | 395.15 | 372.76 | 331.54 | 321.47 | 244.79 | 194.44 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 9.55 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.79 |
| | Total Hours | 452.63 | 414.53 | 501.80 | 467.59 | 462.88 | 436.13 | 516.99 | 512.29 | 461.22 | 476.21 | 472.48 | 507.66 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 10.24% | 18.50% | 8.68% | 24.33% | 26.82% | 37.58% | 47.95% | 31.97% | 37.88% | 32.34% | 22.45% | 16.93% |
| | Idle 1 - Main Eng Idle; APU Off | 50.91 | 60.62 | 65.03 | 58.39 | 59.17 | 55.96 | 43.76 | 74.89 | 42.72 | 62.11 | 71.00 | 57.04 |
| | Idle 2 - Main Eng Off; APU On | 2.95 | 3.90 | 0.91 | 1.47 | 1.28 | 0.93 | 0.88 | 7.65 | 8.58 | 4.00 | 4.70 | 3.59 |
| | Idle 3 - Main Eng Off; APU Off | 5.52 | 13.83 | 5.48 | 17.68 | 21.08 | 33.67 | 39.90 | 27.76 | 21.25 | 27.22 | 16.48 | 10.12 |
| | Idle 4 - Main Eng Idle; APU On | 23.29 | 17.51 | 2.17 | 1.14 | 1.85 | 1.52 | 0.51 | 0.43 | 6.18 | 3.20 | 2.15 | 10.22 |
| | Main Eng Wkg; APU On | 37.72 | 24.72 | 4.45 | 2.61 | 5.84 | 4.34 | 1.64 | 1.42 | 15.83 | 9.08 | 7.55 | 24.21 |
| | Main Eng Wkg; APU Off | 100.23 | 88.30 | 122.41 | 138.88 | 101.52 | 139.05 | 111.53 | 122.95 | 101.47 | 77.93 | 104.20 | 71.36 |
| | Total Hours | 220.61 | 208.88 | 200.45 | 220.16 | 190.73 | 235.46 | 198.23 | 235.09 | 196.02 | 183.54 | 206.08 | 176.53 |
| | Gal Fuel Saved | 15.86 | 56.26 | 23.43 | 74.79 | 87.30 | 136.71 | 162.16 | 136.07 | 109.17 | 119.92 | 80.03 | 45.36 |
| | Tons $NO_x$ Reduced | 0.008 | 0.018 | 0.007 | 0.021 | 0.024 | 0.038 | 0.045 | 0.039 | 0.032 | 0.034 | 0.023 | 0.014 |
| MD Only | % Idle Management Effectiveness | 7.97% | 11.34% | 6.35% | 17.52% | 31.45% | 28.13% | 53.61% | 29.52% | 31.25% | 37.59% | 16.00% | 11.23% |
| | Idle 1 - Main Eng Idle; APU Off | 20.65 | 38.98 | 53.47 | 33.66 | 28.05 | 34.34 | 14.13 | 48.82 | 19.55 | 30.85 | 58.68 | 42.79 |
| | Idle 2 - Main Eng Off; APU On | 2.08 | 2.14 | 0.78 | 0.44 | 0.86 | 0.29 | 0.48 | 4.64 | 3.03 | 2.00 | 2.38 | 2.13 |
| | Idle 3 - Main Eng Off; APU Off | 1.40 | 4.60 | 2.95 | 6.79 | 12.92 | 13.30 | 16.08 | 15.98 | 6.83 | 18.40 | 9.09 | 4.23 |
| | Idle 4 - Main Eng Idle; APU On | 19.49 | 13.69 | 1.60 | 0.42 | 2.00 | 0.39 | 0.20 | 0.40 | 2.15 | 3.01 | 1.57 | 7.48 |
| | Total Hours | 90.21 | 120.00 | 132.71 | 89.11 | 86.17 | 91.74 | 52.18 | 125.64 | 83.67 | 102.65 | 119.05 | 110.80 |
| | Gal Fuel Saved | -0.89 | 16.10 | 13.29 | 28.36 | 53.18 | 53.91 | 65.76 | 79.00 | 35.89 | 78.13 | 43.18 | 18.84 |
| | Tons $NO_x$ Reduced | 0.003 | 0.006 | 0.004 | 0.008 | 0.015 | 0.015 | 0.018 | 0.022 | 0.011 | 0.022 | 0.012 | 0.006 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 52.48% | 56.58% | 59.98% | 65.22% | 74.81% | 72.30% | 87.07% | 78.82% | 79.91% | 78.97% | 67.84% | 52.23% |
| | Idle 1 - Main Eng Idle; APU Off | 117.73 | 135.87 | 161.96 | 123.86 | 81.30 | 79.10 | 47.72 | 88.06 | 69.37 | 80.36 | 134.87 | 224.99 |
| | Idle 2 - Main Eng Off; APU On | 105.04 | 77.40 | 66.30 | 67.80 | 20.86 | 15.48 | 19.65 | 26.37 | 24.22 | 58.70 | 70.79 | 149.67 |
| | Idle 3 - Main Eng Off; APU Off | 85.20 | 138.73 | 190.00 | 171.99 | 230.68 | 196.49 | 321.77 | 310.79 | 281.30 | 286.51 | 230.94 | 136.53 |
| | Idle 4 - Main Eng Idle; APU On | 54.51 | 29.99 | 9.06 | 4.03 | 3.40 | 2.12 | 2.97 | 2.54 | 7.43 | 11.56 | 8.16 | 36.79 |
| | Total Hours | 362.47 | 382.00 | 427.32 | 367.68 | 336.23 | 293.19 | 392.10 | 427.76 | 382.33 | 437.12 | 444.76 | 547.99 |

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 13,787.72 | 13,996.85 | 14,361.63 | 13,548.05 | 9,266.40 | 8,339.60 | 7,446.38 | 9,279.83 | 7,938.47 | 11,435.10 | 12,593.60 | 15,728.67 |
| | Idle 2 - Main Eng Off; APU On | 4,997.85 | 4,807.53 | 3,980.42 | 2,331.77 | 899.62 | 1,043.70 | 1,205.63 | 997.65 | 1,780.58 | 2,433.70 | 3,816.43 | 5,967.97 |
| | Idle 3 - Main Eng Off; APU Off | 5,798.23 | 6,716.33 | 9,244.82 | 10,720.13 | 16,431.95 | 17,092.87 | 19,440.68 | 19,654.28 | 18,795.37 | 18,239.50 | 13,330.60 | 6,875.08 |
| | Idle 4 - Main Eng Idle; APU On | 3,167.63 | 2,222.75 | 1,137.98 | 578.50 | 278.73 | 218.78 | 232.85 | 278.90 | 406.35 | 414.95 | 763.35 | 1,827.85 |
| | Main Eng Wkg; APU On | 1,424.92 | 1,006.07 | 482.33 | 246.22 | 132.95 | 101.37 | 90.63 | 119.02 | 303.57 | 196.67 | 359.23 | 739.22 |
| | Main Eng Wkg; APU Off | 4,400.38 | 4,888.10 | 5,977.10 | 5,655.07 | 5,060.48 | 5,388.73 | 4,556.07 | 5,584.78 | 4,918.12 | 6,063.50 | 5,767.92 | 5,173.22 |
| | Total Hours | 33,576.73 | 33,637.63 | 35,184.28 | 33,079.73 | 32,070.13 | 32,185.05 | 32,972.25 | 35,914.47 | 34,142.45 | 38,783.42 | 36,631.13 | 36,312.00 |
| | Gal Fuel Saved | 31,086.50 | 34,660.30 | 41,543.83 | 42,514.68 | 59,329.77 | 61,237.26 | 69,324.22 | 70,359.52 | 69,360.40 | 68,864.30 | 55,690.81 | 37,618.42 |
| | Tons $NO_X$ Reduced | 7.596 | 8.382 | 9.704 | 9.708 | 13.288 | 13.793 | 15.563 | 15.773 | 15.612 | 15.566 | 12.825 | 9.059 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 6,723.53 | 7,333.52 | 7,111.57 | 6,949.83 | 4,284.97 | 3,961.87 | 3,787.78 | 5,676.35 | 5,091.08 | 6,799.30 | 9,106.62 | 11,178.62 |
| | Idle 2 - Main Eng Off; APU On | 2,843.45 | 2,117.88 | 1,898.03 | 1,300.70 | 515.45 | 415.15 | 666.48 | 689.77 | 1,210.80 | 1,368.95 | 3,004.40 | 4,511.15 |
| | Idle 3 - Main Eng Off; APU Off | 3,315.52 | 2,961.30 | 4,630.35 | 5,039.63 | 8,114.68 | 8,212.27 | 10,580.07 | 13,199.62 | 13,311.52 | 12,234.27 | 10,470.95 | 5,134.45 |
| | Idle 4 - Main Eng Idle; APU On | 1,857.15 | 992.93 | 475.90 | 256.38 | 142.23 | 128.40 | 157.72 | 137.97 | 280.18 | 323.83 | 562.68 | 1,387.60 |
| | Total Hours | 17,198.88 | 16,028.85 | 17,178.28 | 16,014.62 | 15,262.63 | 14,830.70 | 17,210.05 | 22,941.18 | 23,104.55 | 24,776.93 | 27,149.50 | 26,175.50 |
| | Gal Fuel Saved | 18,115.33 | 14,700.13 | 19,589.43 | 19,800.66 | 28,778.80 | 28,906.37 | 37,322.85 | 47,229.20 | 49,186.70 | 45,650.72 | 43,841.82 | 28,306.73 |
| | Tons $NO_X$ Reduced | 4.327 | 3.579 | 4.568 | 4.561 | 6.472 | 6.437 | 8.303 | 10.498 | 10.986 | 10.276 | 10.096 | 6.781 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 12,512.15 | 12,878.55 | 12,164.53 | 11,320.82 | 7,002.12 | 6,919.28 | 6,704.50 | 8,833.87 | 7,495.92 | 10,468.90 | 11,958.08 | 15,015.67 |
| | Idle 2 - Main Eng Off; APU On | 4,498.32 | 4,214.77 | 3,592.97 | 2,129.08 | 739.58 | 930.60 | 1,133.95 | 837.35 | 1,606.37 | 2,270.03 | 3,693.90 | 5,754.53 |
| | Idle 3 - Main Eng Off; APU Off | 4,686.85 | 5,665.12 | 7,847.32 | 8,596.10 | 13,891.83 | 15,009.77 | 18,420.25 | 18,987.87 | 18,188.07 | 17,941.15 | 12,699.33 | 6,666.17 |
| | Idle 4 - Main Eng Idle; APU On | 2,907.22 | 2,007.23 | 985.77 | 347.13 | 167.87 | 185.93 | 209.87 | 244.07 | 388.15 | 392.20 | 738.67 | 1,793.62 |
| | Total Hours | 29,527.85 | 29,991.82 | 30,163.62 | 27,090.05 | 25,615.58 | 27,148.55 | 30,382.97 | 34,227.08 | 32,622.38 | 37,083.15 | 34,743.32 | 34,963.52 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 3,028.47 | 3,327.43 | 3,503.17 | 3,943.62 | 2,039.12 | 1,636.62 | 1,676.97 | 1,736.30 | 2,026.92 | 2,512.22 | 2,965.57 | 4,182.20 |
| | Idle 2 - Main Eng Off; APU On | 928.63 | 1,110.25 | 1,000.73 | 750.75 | 289.35 | 249.90 | 414.95 | 244.05 | 410.48 | 513.97 | 869.22 | 987.22 |
| | Idle 3 - Main Eng Off; APU Off | 462.45 | 554.83 | 1,212.68 | 1,931.40 | 3,057.97 | 3,776.85 | 3,929.40 | 4,174.88 | 3,959.28 | 3,608.77 | 2,648.68 | 905.23 |
| | Idle 4 - Main Eng Idle; APU On | 697.27 | 632.22 | 435.02 | 51.23 | 44.12 | 22.65 | 41.75 | 146.07 | 51.88 | 71.75 | 263.13 | 240.28 |
| | Main Eng Wkg; APU On | 368.53 | 228.28 | 232.47 | 17.73 | 20.07 | 6.50 | 12.07 | 84.02 | 36.25 | 21.73 | 129.52 | 88.87 |
| | Main Eng Wkg; APU Off | 835.00 | 1,038.27 | 1,439.77 | 1,441.27 | 1,051.13 | 1,163.57 | 1,016.38 | 1,018.60 | 1,219.18 | 1,352.22 | 1,195.02 | 1,156.20 |
| | Total Hours | 6,320.35 | 6,891.28 | 7,823.83 | 8,136.00 | 6,501.75 | 6,856.08 | 7,091.52 | 7,403.92 | 7,704.00 | 8,080.65 | 8,071.13 | 7,560.00 |
| | Gal Fuel Saved | 3,483.12 | 4,487.39 | 6,610.90 | 8,649.11 | 11,524.49 | 13,879.04 | 14,428.77 | 15,042.32 | 14,683.80 | 13,511.38 | 11,368.41 | 5,411.89 |
| | Tons $NO_X$ Reduced | 0.972 | 1.230 | 1.700 | 2.114 | 2.762 | 3.307 | 3.424 | 3.585 | 3.497 | 3.216 | 2.792 | 1.379 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 919.78 | 1,212.78 | 1,800.62 | 1,752.72 | 486.22 | 661.78 | 611.12 | 743.37 | 965.77 | 1,225.55 | 1,631.15 | 2,211.62 |
| | Idle 2 - Main Eng Off; APU On | 507.60 | 576.90 | 431.42 | 475.95 | 204.80 | 118.58 | 356.53 | 115.53 | 257.10 | 237.08 | 746.17 | 625.02 |
| | Idle 3 - Main Eng Off; APU Off | 177.18 | 298.30 | 518.77 | 794.28 | 945.75 | 1,121.72 | 1,235.95 | 2,250.23 | 2,175.02 | 2,169.88 | 1,612.85 | 612.58 |
| | Idle 4 - Main Eng Idle; APU On | 223.23 | 147.45 | 203.58 | 26.58 | 28.48 | 8.23 | 16.80 | 60.82 | 26.03 | 50.88 | 155.68 | 149.52 |
| | Total Hours | 2,170.52 | 2,707.10 | 3,658.07 | 3,671.50 | 1,956.62 | 2,415.47 | 2,603.52 | 3,691.72 | 3,986.10 | 4,377.73 | 4,832.22 | 4,164.05 |
| | Gal Fuel Saved | 1,667.27 | 2,595.79 | 2,669.81 | 3,906.35 | 3,675.40 | 3,962.63 | 4,953.13 | 8,184.59 | 8,131.83 | 8,144.08 | 7,541.41 | 3,541.22 |
| | Tons $NO_X$ Reduced | 0.453 | 0.691 | 0.681 | 0.961 | 0.879 | 0.928 | 1.183 | 1.955 | 1.938 | 1.949 | 1.869 | 0.898 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,843.42 | 3,220.05 | 3,198.95 | 3,201.87 | 1,436.65 | 1,566.28 | 1,472.00 | 1,678.80 | 1,917.72 | 2,497.90 | 2,951.77 | 3,993.32 |
| | Idle 2 - Main Eng Off; APU On | 865.75 | 1,109.83 | 826.02 | 627.33 | 229.93 | 248.10 | 402.62 | 136.12 | 369.12 | 504.37 | 869.22 | 949.65 |
| | Idle 3 - Main Eng Off; APU Off | 323.47 | 540.03 | 987.70 | 1,472.48 | 2,490.83 | 3,760.93 | 3,804.10 | 4,032.63 | 3,739.93 | 3,603.25 | 2,602.47 | 900.70 |
| | Idle 4 - Main Eng Idle; APU On | 680.02 | 628.55 | 365.33 | 38.47 | 34.10 | 22.18 | 36.30 | 142.12 | 51.18 | 71.72 | 262.93 | 238.97 |
| | Total Hours | 5,853.45 | 6,740.17 | 6,811.27 | 6,588.45 | 4,936.95 | 6,711.15 | 6,627.57 | 7,068.33 | 7,296.32 | 8,042.15 | 8,007.67 | 7,285.42 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 6,402.63 | 5,926.68 | 5,800.77 | 5,019.83 | 3,651.92 | 3,601.28 | 3,495.70 | 4,216.15 | 3,568.70 | 5,295.58 | 5,172.75 | 6,378.63 |
| | Idle 2 - Main Eng Off; APU On | 2,157.55 | 2,210.82 | 1,697.95 | 642.30 | 286.43 | 241.60 | 361.38 | 295.20 | 670.65 | 895.23 | 1,484.67 | 2,343.83 |
| | Idle 3 - Main Eng Off; APU Off | 2,978.42 | 3,256.87 | 4,283.13 | 4,668.33 | 7,570.92 | 7,404.73 | 8,545.35 | 9,110.30 | 8,866.15 | 8,328.42 | 5,723.23 | 2,774.52 |
| | Idle 4 - Main Eng Idle; APU On | 988.57 | 851.92 | 423.32 | 366.97 | 142.95 | 34.62 | 46.42 | 76.20 | 68.10 | 104.80 | 187.25 | 688.15 |
| | Main Eng Wkg; APU On | 392.65 | 437.87 | 141.70 | 163.02 | 35.82 | 11.00 | 13.12 | 15.00 | 26.05 | 52.50 | 91.20 | 245.23 |
| | Main Eng Wkg; APU Off | 1,808.57 | 2,046.07 | 2,263.23 | 1,923.93 | 1,990.17 | 2,107.73 | 1,796.08 | 2,584.30 | 1,979.72 | 2,843.47 | 2,628.90 | 2,521.63 |
| | Total Hours | 14,728.38 | 14,730.22 | 14,610.10 | 12,784.38 | 13,678.20 | 13,400.97 | 14,258.05 | 16,297.15 | 15,179.37 | 17,520.00 | 15,288.00 | 14,952.00 |
| | Gal Fuel Saved | 16,963.68 | 18,436.42 | 20,692.54 | 19,293.21 | 29,398.39 | 28,044.80 | 32,657.67 | 34,783.16 | 34,979.44 | 33,982.40 | 26,012.49 | 16,893.17 |
| | Tons $NO_X$ Reduced | 3.841 | 4.209 | 4.580 | 4.120 | 6.263 | 6.001 | 7.015 | 7.452 | 7.506 | 7.300 | 5.636 | 3.815 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 3,144.22 | 2,495.62 | 1,543.90 | 1,619.90 | 1,479.45 | 1,623.78 | 1,614.58 | 2,377.13 | 2,371.75 | 3,124.90 | 4,031.12 | 4,517.32 |
| | Idle 2 - Main Eng Off; APU On | 1,045.78 | 458.50 | 368.10 | 207.55 | 94.35 | 51.93 | 86.05 | 166.58 | 427.37 | 596.95 | 1,076.17 | 1,768.85 |
| | Idle 3 - Main Eng Off; APU Off | 1,701.30 | 766.37 | 1,250.23 | 1,453.72 | 2,915.80 | 3,569.28 | 4,319.98 | 6,015.92 | 6,849.80 | 5,120.93 | 4,608.08 | 2,043.53 |
| | Idle 4 - Main Eng Idle; APU On | 439.93 | 277.10 | 70.37 | 106.57 | 31.67 | 13.45 | 20.40 | 23.67 | 46.42 | 74.62 | 136.55 | 510.88 |
| | Total Hours | 7,216.65 | 4,768.50 | 4,010.90 | 3,992.40 | 5,285.90 | 6,030.17 | 6,820.32 | 10,052.33 | 11,105.35 | 10,876.43 | 11,972.05 | 10,895.57 |
| | Gal Fuel Saved | 9,680.34 | 4,097.26 | 5,621.05 | 5,887.68 | 11,483.09 | 13,392.81 | 16,302.82 | 22,809.26 | 26,596.32 | 21,198.09 | 20,719.52 | 12,630.50 |
| | Tons $NO_X$ Reduced | 2.123 | 0.907 | 1.202 | 1.266 | 2.485 | 2.884 | 3.486 | 4.850 | 5.732 | 4.543 | 4.499 | 2.842 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 6,060.20 | 5,098.95 | 4,164.45 | 3,809.52 | 2,498.82 | 3,055.02 | 3,278.55 | 4,100.70 | 3,356.50 | 4,770.92 | 5,029.85 | 5,971.12 |
| | Idle 2 - Main Eng Off; APU On | 1,866.73 | 1,743.72 | 1,512.90 | 603.23 | 218.37 | 215.87 | 324.60 | 279.10 | 635.93 | 850.18 | 1,439.02 | 2,183.83 |
| | Idle 3 - Main Eng Off; APU Off | 2,469.50 | 2,426.72 | 3,291.47 | 3,539.67 | 5,979.50 | 6,624.70 | 8,096.70 | 8,826.87 | 8,679.62 | 8,238.15 | 5,378.68 | 2,636.85 |
| | Idle 4 - Main Eng Idle; APU On | 829.78 | 698.48 | 370.20 | 159.40 | 46.23 | 30.72 | 38.70 | 46.72 | 62.83 | 98.40 | 183.25 | 671.07 |
| | Total Hours | 13,143.33 | 11,965.93 | 11,257.18 | 9,570.40 | 10,098.17 | 11,528.72 | 13,379.52 | 15,787.80 | 14,681.82 | 16,721.07 | 14,706.15 | 14,124.42 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.48 | 2,255.55 | 2,246.38 | 2,364.23 | 1,538.20 | 1,125.75 | 1,139.60 | 1,498.87 | 1,047.82 | 1,621.03 | 1,657.20 | 1,745.72 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 299.90 | 205.18 | 109.15 | 269.83 | 178.00 | 495.22 | 786.50 |
| | Idle 3 - Main Eng Off; APU Off | 943.98 | 907.80 | 1,414.80 | 1,546.42 | 2,445.95 | 2,455.00 | 2,994.68 | 2,792.18 | 2,466.40 | 2,389.28 | 1,804.75 | 1,406.33 |
| | Idle 4 - Main Eng Idle; APU On | 548.08 | 129.50 | 124.78 | 93.43 | 25.65 | 103.32 | 101.93 | 25.55 | 129.75 | 49.53 | 173.32 | 323.75 |
| | Main Eng Wkg; APU On | 211.15 | 43.30 | 54.73 | 36.77 | 7.03 | 36.12 | 49.02 | 5.83 | 67.18 | 13.53 | 47.95 | 114.63 |
| | Main Eng Wkg; APU Off | 554.05 | 744.15 | 805.18 | 762.22 | 801.00 | 587.92 | 628.27 | 752.42 | 603.02 | 932.62 | 693.57 | 639.07 |
| | Total Hours | 4,704.00 | 4,480.13 | 5,160.00 | 4,944.00 | 4,848.00 | 4,608.00 | 5,118.68 | 5,184.00 | 4,584.00 | 5,184.00 | 4,872.00 | 5,016.00 |
| | Gal Fuel Saved | 4,194.45 | 3,913.66 | 5,833.63 | 5,339.21 | 8,014.20 | 8,718.55 | 10,194.35 | 9,352.97 | 8,637.00 | 8,210.14 | 7,058.76 | 6,371.34 |
| | Tons $NO_X$ Reduced | 0.983 | 0.870 | 1.294 | 1.150 | 1.714 | 1.891 | 2.185 | 1.993 | 1.872 | 1.759 | 1.560 | 1.444 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.08 | 2,210.85 | 2,237.78 | 2,338.03 | 1,482.55 | 938.78 | 1,096.70 | 1,480.28 | 1,045.85 | 1,591.30 | 1,401.22 | 1,628.12 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 106.47 | 57.20 | 109.15 | 269.62 | 177.90 | 470.63 | 730.72 |
| | Idle 3 - Main Eng Off; APU Off | 934.62 | 891.05 | 1,414.80 | 1,538.72 | 2,323.98 | 2,149.93 | 2,906.62 | 2,779.12 | 2,462.00 | 2,261.40 | 1,602.72 | 1,298.65 |
| | Idle 4 - Main Eng Idle; APU On | 545.65 | 129.50 | 124.78 | 93.43 | 25.65 | 89.97 | 91.82 | 25.55 | 129.75 | 48.88 | 173.32 | 316.17 |
| | Total Hours | 4,691.80 | 4,406.00 | 5,132.85 | 4,874.65 | 4,588.30 | 3,817.42 | 4,795.02 | 5,138.45 | 4,572.75 | 4,992.67 | 4,325.57 | 4,666.88 |
| | Gal Fuel Saved | 4,166.62 | 3,856.45 | 5,833.63 | 5,314.46 | 7,622.17 | 7,258.09 | 9,544.08 | 9,310.97 | 8,622.31 | 7,799.28 | 6,347.26 | 5,889.39 |
| | Tons $NO_X$ Reduced | 0.977 | 0.858 | 1.294 | 1.145 | 1.632 | 1.571 | 2.036 | 1.984 | 1.869 | 1.673 | 1.410 | 1.339 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,866.08 | 2,255.55 | 2,246.38 | 2,364.23 | 1,536.60 | 1,006.12 | 1,139.60 | 1,498.62 | 1,047.52 | 1,621.03 | 1,617.13 | 1,718.22 |
| | Idle 2 - Main Eng Off; APU On | 580.25 | 399.83 | 514.12 | 140.93 | 30.17 | 294.12 | 205.18 | 109.15 | 269.83 | 178.00 | 495.22 | 782.10 |
| | Idle 3 - Main Eng Off; APU Off | 934.62 | 907.80 | 1,414.80 | 1,546.42 | 2,424.97 | 2,245.02 | 2,994.68 | 2,792.18 | 2,466.40 | 2,389.28 | 1,780.08 | 1,391.38 |
| | Idle 4 - Main Eng Idle; APU On | 545.65 | 129.50 | 124.78 | 93.43 | 25.65 | 102.13 | 101.93 | 25.55 | 129.75 | 49.53 | 173.32 | 323.72 |
| | Total Hours | 4,691.80 | 4,480.13 | 5,160.00 | 4,944.00 | 4,820.93 | 4,250.20 | 5,118.68 | 5,183.30 | 4,583.70 | 5,184.00 | 4,771.53 | 4,963.17 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,490.13 | 2,487.18 | 2,811.32 | 2,220.37 | 2,037.17 | 1,975.95 | 1,134.12 | 1,828.52 | 1,295.03 | 2,006.27 | 2,798.08 | 3,422.12 |
| | Idle 2 - Main Eng Off; APU On | 1,331.42 | 1,086.63 | 767.62 | 797.78 | 293.67 | 252.30 | 224.12 | 349.25 | 429.62 | 846.50 | 967.33 | 1,850.42 |
| | Idle 3 - Main Eng Off; APU Off | 1,413.38 | 1,996.83 | 2,334.20 | 2,573.98 | 3,357.12 | 3,456.28 | 3,971.25 | 3,576.92 | 3,503.53 | 3,913.03 | 3,153.93 | 1,789.00 |
| | Idle 4 - Main Eng Idle; APU On | 933.72 | 609.12 | 154.87 | 66.87 | 66.02 | 58.20 | 42.75 | 31.08 | 156.62 | 188.87 | 139.65 | 575.67 |
| | Main Eng Wkg; APU On | 452.58 | 296.62 | 53.43 | 28.70 | 70.03 | 47.75 | 16.43 | 14.17 | 174.08 | 108.90 | 90.57 | 290.48 |
| | Main Eng Wkg; APU Off | 1,202.77 | 1,059.62 | 1,468.92 | 1,527.65 | 1,218.18 | 1,529.52 | 1,115.33 | 1,229.47 | 1,116.20 | 935.20 | 1,250.43 | 856.32 |
| | Total Hours | 7,824.00 | 7,536.00 | 7,590.35 | 7,215.35 | 7,042.18 | 7,320.00 | 6,504.00 | 7,029.40 | 6,675.08 | 7,998.77 | 8,400.00 | 8,784.00 |
| | Gal Fuel Saved | 6,445.25 | 7,822.82 | 8,406.76 | 9,233.14 | 10,392.68 | 10,594.87 | 12,043.43 | 11,181.06 | 11,060.17 | 13,160.38 | 11,251.16 | 8,942.01 |
| | Tons $NO_X$ Reduced | 1.800 | 2.072 | 2.131 | 2.324 | 2.550 | 2.594 | 2.939 | 2.743 | 2.736 | 3.292 | 2.838 | 2.421 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 793.45 | 1,414.27 | 1,529.27 | 1,239.18 | 836.75 | 737.52 | 465.38 | 1,075.57 | 707.72 | 857.55 | 2,043.13 | 2,821.57 |
| | Idle 2 - Main Eng Off; APU On | 709.82 | 682.65 | 584.40 | 476.27 | 186.13 | 138.17 | 166.70 | 298.50 | 256.72 | 357.02 | 711.43 | 1,386.57 |
| | Idle 3 - Main Eng Off; APU Off | 502.42 | 1,005.58 | 1,446.55 | 1,252.92 | 1,929.15 | 1,371.33 | 2,117.52 | 2,154.35 | 1,824.70 | 2,682.05 | 2,647.30 | 1,179.68 |
| | Idle 4 - Main Eng Idle; APU On | 648.33 | 438.88 | 77.17 | 29.80 | 56.43 | 16.75 | 28.70 | 27.93 | 77.98 | 149.45 | 97.13 | 411.03 |
| | Total Hours | 3,119.92 | 4,147.25 | 4,376.47 | 3,476.07 | 3,431.82 | 2,567.65 | 2,991.20 | 4,058.68 | 3,440.35 | 4,530.10 | 6,019.67 | 6,449.00 |
| | Gal Fuel Saved | 2,601.10 | 4,150.62 | 5,464.93 | 4,692.17 | 5,998.14 | 4,292.84 | 6,522.82 | 6,924.37 | 5,836.24 | 8,509.27 | 9,233.63 | 6,245.63 |
| | Tons $NO_X$ Reduced | 0.774 | 1.123 | 1.392 | 1.188 | 1.476 | 1.054 | 1.597 | 1.709 | 1.446 | 2.111 | 2.318 | 1.702 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,742.45 | 2,304.00 | 2,554.75 | 1,945.20 | 1,530.05 | 1,291.87 | 814.35 | 1,555.75 | 1,174.18 | 1,579.05 | 2,359.33 | 3,333.02 |
| | Idle 2 - Main Eng Off; APU On | 1,185.58 | 961.38 | 739.93 | 757.58 | 261.12 | 172.52 | 201.55 | 312.98 | 331.48 | 737.48 | 890.45 | 1,838.95 |
| | Idle 3 - Main Eng Off; APU Off | 959.27 | 1,790.57 | 2,153.35 | 2,037.53 | 2,996.53 | 2,379.12 | 3,524.77 | 3,336.18 | 3,302.12 | 3,710.47 | 2,938.10 | 1,737.23 |
| | Idle 4 - Main Eng Idle; APU On | 851.77 | 550.70 | 125.45 | 55.83 | 61.88 | 30.90 | 32.93 | 29.68 | 144.38 | 172.55 | 119.17 | 559.87 |
| | Total Hours | 5,839.27 | 6,805.58 | 6,935.17 | 5,987.20 | 5,759.53 | 4,658.48 | 5,257.20 | 6,187.65 | 6,060.55 | 7,135.93 | 7,257.97 | 8,590.52 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 38.90% | 41.54% | 46.04% | 48.02% | 64.49% | 67.94% | 72.89% | 68.36% | 71.15% | 63.56% | 56.21% | 42.25% |
| | Idle 1 - Main Eng Idle; APU Off | 255.33 | 254.49 | 256.46 | 255.62 | 181.69 | 163.52 | 151.97 | 178.46 | 149.78 | 207.91 | 228.97 | 291.27 |
| | Idle 2 - Main Eng Off; APU On | 92.55 | 87.41 | 71.08 | 44.00 | 17.64 | 20.46 | 24.60 | 19.19 | 33.60 | 44.25 | 69.39 | 110.52 |
| | Idle 3 - Main Eng Off; APU Off | 107.37 | 122.12 | 165.09 | 202.27 | 322.20 | 335.15 | 396.75 | 377.97 | 354.63 | 331.63 | 242.37 | 127.32 |
| | Idle 4 - Main Eng Idle; APU On | 58.66 | 40.41 | 20.32 | 10.92 | 5.47 | 4.29 | 4.75 | 5.36 | 7.67 | 7.54 | 13.88 | 33.85 |
| | Main Eng Wkg; APU On | 26.39 | 18.29 | 8.61 | 4.65 | 2.61 | 1.99 | 1.85 | 2.29 | 5.73 | 3.58 | 6.53 | 13.69 |
| | Main Eng Wkg; APU Off | 81.49 | 88.87 | 106.73 | 106.70 | 99.23 | 105.66 | 92.98 | 107.40 | 92.79 | 110.25 | 104.87 | 95.80 |
| | Total Hours | 621.79 | 611.59 | 628.29 | 624.15 | 628.83 | 631.08 | 672.90 | 690.66 | 644.20 | 705.15 | 666.02 | 672.44 |
| | Gal Fuel Saved | 575.68 | 630.19 | 741.85 | 802.16 | 1163.33 | 1200.73 | 1414.78 | 1353.07 | 1308.69 | 1252.08 | 1012.56 | 696.64 |
| | Tons $NO_X$ Reduced | 0.141 | 0.152 | 0.173 | 0.183 | 0.261 | 0.270 | 0.318 | 0.303 | 0.295 | 0.283 | 0.233 | 0.168 |
| MD Only | % Idle Management Effectiveness | 41.79% | 37.89% | 46.25% | 46.80% | 66.09% | 67.84% | 74.03% | 70.49% | 73.00% | 65.63% | 58.22% | 43.43% |
| | Idle 1 - Main Eng Idle; APU Off | 156.36 | 156.03 | 158.03 | 151.08 | 97.39 | 99.05 | 84.17 | 118.26 | 96.06 | 128.29 | 168.64 | 214.97 |
| | Idle 2 - Main Eng Off; APU On | 66.13 | 45.06 | 42.18 | 28.28 | 11.71 | 10.38 | 14.81 | 14.37 | 22.85 | 25.83 | 55.64 | 86.75 |
| | Idle 3 - Main Eng Off; APU Off | 77.11 | 63.01 | 102.90 | 109.56 | 184.42 | 205.31 | 235.11 | 274.99 | 251.16 | 230.84 | 193.91 | 98.74 |
| | Idle 4 - Main Eng Idle; APU On | 43.19 | 21.13 | 10.58 | 5.57 | 3.23 | 3.21 | 3.50 | 2.87 | 5.29 | 6.11 | 10.42 | 26.68 |
| | Total Hours | 399.97 | 341.04 | 381.74 | 348.14 | 346.88 | 370.77 | 382.45 | 477.94 | 435.93 | 467.49 | 502.77 | 503.37 |
| | Gal Fuel Saved | 421.29 | 312.77 | 435.32 | 430.45 | 654.06 | 722.66 | 829.40 | 983.94 | 928.05 | 861.33 | 811.89 | 544.36 |
| | Tons $NO_X$ Reduced | 0.101 | 0.076 | 0.102 | 0.099 | 0.147 | 0.161 | 0.185 | 0.219 | 0.207 | 0.194 | 0.187 | 0.130 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 37.33% | 39.89% | 46.52% | 47.89% | 67.11% | 69.17% | 73.88% | 68.59% | 71.52% | 65.05% | 56.35% | 42.49% |
| | Idle 1 - Main Eng Idle; APU Off | 245.34 | 242.99 | 233.93 | 231.04 | 142.90 | 138.39 | 136.83 | 169.88 | 141.43 | 190.34 | 217.42 | 283.31 |
| | Idle 2 - Main Eng Off; APU On | 88.20 | 79.52 | 69.10 | 43.45 | 15.09 | 18.61 | 23.14 | 16.10 | 30.31 | 41.27 | 67.16 | 108.58 |
| | Idle 3 - Main Eng Off; APU Off | 91.90 | 106.89 | 150.91 | 175.43 | 283.51 | 300.20 | 375.92 | 365.15 | 343.17 | 326.20 | 230.90 | 125.78 |
| | Idle 4 - Main Eng Idle; APU On | 57.00 | 37.87 | 18.96 | 7.08 | 3.43 | 3.72 | 4.28 | 4.69 | 7.32 | 7.13 | 13.43 | 33.84 |
| | Total Hours | 578.98 | 565.88 | 580.07 | 552.86 | 522.77 | 542.97 | 620.06 | 658.21 | 615.52 | 674.24 | 631.70 | 659.69 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 27.19% | 29.60% | 35.98% | 40.17% | 61.64% | 70.82% | 71.65% | 70.13% | 67.76% | 61.47% | 52.14% | 29.97% |
| | Idle 1 - Main Eng Idle; APU Off | 275.32 | 277.29 | 269.47 | 303.36 | 185.37 | 148.78 | 152.45 | 144.69 | 184.27 | 209.35 | 247.13 | 348.52 |
| | Idle 2 - Main Eng Off; APU On | 84.42 | 92.52 | 76.98 | 57.75 | 26.30 | 22.72 | 37.72 | 20.34 | 37.32 | 42.83 | 72.43 | 82.27 |
| | Idle 3 - Main Eng Off; APU Off | 42.04 | 46.24 | 93.28 | 148.57 | 278.00 | 343.35 | 357.22 | 347.91 | 359.93 | 300.73 | 220.72 | 75.44 |
| | Idle 4 - Main Eng Idle; APU On | 63.39 | 52.68 | 33.46 | 3.94 | 4.01 | 2.06 | 3.80 | 12.17 | 4.72 | 5.98 | 21.93 | 20.02 |
| | Main Eng Wkg; APU On | 33.50 | 19.02 | 17.88 | 1.36 | 1.82 | 0.59 | 1.10 | 7.00 | 3.30 | 1.81 | 10.79 | 7.41 |
| | Main Eng Wkg; APU Off | 75.91 | 86.52 | 110.75 | 110.87 | 95.56 | 105.78 | 92.40 | 84.88 | 110.83 | 112.68 | 99.58 | 96.35 |
| | Total Hours | 574.58 | 574.27 | 601.83 | 625.85 | 591.07 | 623.28 | 644.68 | 616.99 | 700.36 | 673.39 | 672.59 | 630.00 |
| | Gal Fuel Saved | 316.65 | 373.95 | 508.53 | 665.32 | 1,047.68 | 1,261.73 | 1,311.71 | 1,253.53 | 1,334.89 | 1,125.95 | 947.37 | 450.99 |
| | Tons $NO_X$ Reduced | 0.088 | 0.103 | 0.131 | 0.163 | 0.251 | 0.301 | 0.311 | 0.299 | 0.318 | 0.268 | 0.233 | 0.115 |
| MD Only | % Idle Management Effectiveness | 37.46% | 39.15% | 32.16% | 41.65% | 69.09% | 64.93% | 71.72% | 74.63% | 71.03% | 65.35% | 56.90% | 34.39% |
| | Idle 1 - Main Eng Idle; APU Off | 102.20 | 110.25 | 138.51 | 175.27 | 48.62 | 66.18 | 76.39 | 74.34 | 87.80 | 102.13 | 135.93 | 184.30 |
| | Idle 2 - Main Eng Off; APU On | 56.40 | 52.45 | 33.19 | 47.60 | 20.48 | 11.86 | 44.57 | 11.55 | 23.37 | 19.76 | 62.18 | 52.08 |
| | Idle 3 - Main Eng Off; APU Off | 19.69 | 27.12 | 39.91 | 79.43 | 94.58 | 112.17 | 154.49 | 225.02 | 197.73 | 180.82 | 134.40 | 51.05 |
| | Idle 4 - Main Eng Idle; APU On | 24.80 | 13.40 | 15.66 | 2.66 | 2.85 | 0.82 | 2.10 | 6.08 | 2.37 | 4.24 | 12.97 | 12.46 |
| | Total Hours | 241.17 | 246.10 | 281.39 | 367.15 | 195.66 | 241.55 | 325.44 | 369.17 | 362.37 | 364.81 | 402.68 | 347.00 |
| | Gal Fuel Saved | 185.25 | 235.98 | 205.37 | 390.63 | 367.54 | 396.26 | 619.14 | 818.46 | 739.26 | 678.67 | 628.45 | 295.10 |
| | Tons $NO_X$ Reduced | 0.050 | 0.063 | 0.052 | 0.096 | 0.088 | 0.093 | 0.148 | 0.195 | 0.176 | 0.162 | 0.156 | 0.075 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 25.23% | 30.01% | 33.72% | 39.32% | 64.91% | 71.62% | 73.61% | 69.60% | 67.61% | 61.52% | 51.92% | 30.42% |
| | Idle 1 - Main Eng Idle; APU Off | 258.49 | 268.34 | 246.07 | 291.08 | 130.60 | 142.39 | 133.82 | 139.90 | 174.34 | 208.16 | 245.98 | 332.78 |
| | Idle 2 - Main Eng Off; APU On | 78.70 | 92.49 | 63.54 | 57.03 | 20.90 | 22.55 | 36.60 | 11.34 | 33.56 | 42.03 | 72.43 | 79.14 |
| | Idle 3 - Main Eng Off; APU Off | 29.41 | 45.00 | 75.98 | 133.86 | 226.44 | 341.90 | 345.83 | 336.05 | 339.99 | 300.27 | 216.87 | 75.06 |
| | Idle 4 - Main Eng Idle; APU On | 61.82 | 52.38 | 28.10 | 3.50 | 3.10 | 2.02 | 3.30 | 11.84 | 4.65 | 5.98 | 21.91 | 19.91 |
| | Total Hours | 532.13 | 561.68 | 523.94 | 598.95 | 448.81 | 610.10 | 602.51 | 589.03 | 663.30 | 670.18 | 667.31 | 607.12 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 41.00% | 44.65% | 49.00% | 49.64% | 67.43% | 67.77% | 71.55% | 68.66% | 72.39% | 63.07% | 57.35% | 42.00% |
| | Idle 1 - Main Eng Idle; APU Off | 266.78 | 246.95 | 241.70 | 228.17 | 173.90 | 163.69 | 166.46 | 183.31 | 148.70 | 220.65 | 215.53 | 277.33 |
| | Idle 2 - Main Eng Off; APU On | 89.90 | 92.12 | 70.75 | 29.20 | 13.64 | 10.98 | 17.21 | 12.83 | 27.94 | 37.30 | 61.86 | 101.91 |
| | Idle 3 - Main Eng Off; APU Off | 124.10 | 135.70 | 178.46 | 212.20 | 360.52 | 336.58 | 406.92 | 396.10 | 369.42 | 347.02 | 238.47 | 120.63 |
| | Idle 4 - Main Eng Idle; APU On | 41.19 | 35.50 | 17.64 | 16.68 | 6.81 | 1.57 | 2.21 | 3.31 | 2.84 | 4.37 | 7.80 | 29.92 |
| | Main Eng Wkg; APU On | 16.36 | 18.24 | 5.90 | 7.41 | 1.71 | 0.50 | 0.62 | 0.65 | 1.09 | 2.19 | 3.80 | 10.66 |
| | Main Eng Wkg; APU Off | 75.36 | 85.25 | 94.30 | 87.45 | 94.77 | 95.81 | 85.53 | 112.36 | 82.49 | 118.48 | 109.54 | 109.64 |
| | Total Hours | 613.68 | 613.76 | 608.75 | 581.11 | 651.34 | 609.13 | 678.95 | 708.57 | 632.47 | 730.00 | 637.00 | 650.09 |
| | Gal Fuel Saved | 706.82 | 768.18 | 862.19 | 876.96 | 1,399.92 | 1,274.76 | 1,555.13 | 1,512.31 | 1,457.48 | 1,415.93 | 1,083.85 | 734.49 |
| | Tons $NO_X$ Reduced | 0.160 | 0.175 | 0.191 | 0.187 | 0.298 | 0.273 | 0.334 | 0.324 | 0.313 | 0.304 | 0.235 | 0.166 |
| MD Only | % Idle Management Effectiveness | 43.39% | 30.64% | 50.06% | 49.04% | 66.58% | 68.86% | 72.94% | 72.03% | 75.06% | 64.12% | 57.70% | 43.12% |
| | Idle 1 - Main Eng Idle; APU Off | 184.95 | 131.35 | 102.93 | 85.26 | 87.03 | 95.52 | 80.73 | 108.05 | 98.82 | 130.20 | 167.96 | 215.11 |
| | Idle 2 - Main Eng Off; APU On | 61.52 | 24.13 | 24.54 | 10.92 | 5.55 | 3.05 | 4.30 | 7.57 | 17.81 | 24.87 | 44.84 | 84.23 |
| | Idle 3 - Main Eng Off; APU Off | 100.08 | 40.34 | 83.35 | 76.51 | 171.52 | 209.96 | 216.00 | 273.45 | 285.41 | 213.37 | 192.00 | 97.31 |
| | Idle 4 - Main Eng Idle; APU On | 25.88 | 14.58 | 4.69 | 5.61 | 1.86 | 0.79 | 1.02 | 1.08 | 1.93 | 3.11 | 5.69 | 24.33 |
| | Total Hours | 424.51 | 250.97 | 267.39 | 210.13 | 310.94 | 354.72 | 341.02 | 456.92 | 462.72 | 453.18 | 498.84 | 518.84 |
| | Gal Fuel Saved | 569.43 | 215.65 | 374.74 | 309.88 | 675.48 | 787.81 | 815.14 | 1,036.78 | 1,108.18 | 883.25 | 863.31 | 601.45 |
| | Tons $NO_X$ Reduced | 0.125 | 0.048 | 0.080 | 0.067 | 0.146 | 0.170 | 0.174 | 0.220 | 0.239 | 0.189 | 0.187 | 0.135 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 38.63% | 41.84% | 51.44% | 51.07% | 70.89% | 68.91% | 71.74% | 68.71% | 73.15% | 65.11% | 56.67% | 42.05% |
| | Idle 1 - Main Eng Idle; APU Off | 275.46 | 231.77 | 198.31 | 190.48 | 131.52 | 145.48 | 156.12 | 178.29 | 139.85 | 198.79 | 209.58 | 271.41 |
| | Idle 2 - Main Eng Off; APU On | 84.85 | 79.26 | 72.04 | 30.16 | 11.49 | 10.28 | 15.46 | 12.13 | 26.50 | 35.42 | 59.96 | 99.27 |
| | Idle 3 - Main Eng Off; APU Off | 112.25 | 110.31 | 156.74 | 176.98 | 314.71 | 315.46 | 385.56 | 383.78 | 361.65 | 343.26 | 224.11 | 119.86 |
| | Idle 4 - Main Eng Idle; APU On | 37.72 | 31.75 | 17.63 | 7.97 | 2.43 | 1.46 | 1.84 | 2.03 | 2.62 | 4.10 | 7.64 | 30.50 |
| | Total Hours | 597.42 | 543.91 | 536.06 | 478.52 | 531.48 | 548.99 | 637.12 | 686.43 | 611.74 | 696.71 | 612.76 | 642.02 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 38.70% | 35.41% | 44.86% | 40.71% | 61.29% | 69.15% | 72.05% | 65.56% | 69.91% | 60.58% | 55.68% | 51.45% |
| | Idle 1 - Main Eng Idle; APU Off | 266.64 | 322.22 | 320.91 | 337.75 | 219.74 | 160.82 | 162.80 | 214.12 | 149.69 | 231.58 | 236.74 | 249.39 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 42.84 | 29.31 | 15.59 | 38.55 | 25.43 | 70.75 | 112.36 |
| | Idle 3 - Main Eng Off; APU Off | 134.85 | 129.69 | 202.11 | 220.92 | 349.42 | 350.71 | 427.81 | 398.88 | 352.34 | 341.33 | 257.82 | 200.90 |
| | Idle 4 - Main Eng Idle; APU On | 78.30 | 18.50 | 17.83 | 13.35 | 3.66 | 14.76 | 14.56 | 3.65 | 18.54 | 7.08 | 24.76 | 46.25 |
| | Main Eng Wkg; APU On | 30.16 | 6.19 | 7.82 | 5.25 | 1.00 | 5.16 | 7.00 | 0.83 | 9.60 | 1.93 | 6.85 | 16.38 |
| | Main Eng Wkg; APU Off | 79.15 | 106.31 | 115.03 | 108.89 | 114.43 | 83.99 | 89.75 | 107.49 | 86.15 | 133.23 | 99.08 | 91.30 |
| | Total Hours | 672.00 | 640.02 | 737.14 | 706.29 | 692.57 | 658.29 | 731.24 | 740.57 | 654.86 | 740.57 | 696.00 | 716.57 |
| | Gal Fuel Saved | 599.21 | 559.09 | 833.38 | 762.74 | 1,144.89 | 1,245.51 | 1,456.34 | 1,336.14 | 1,233.86 | 1,172.88 | 1,008.39 | 910.19 |
| | Tons $NO_X$ Reduced | 0.140 | 0.124 | 0.185 | 0.164 | 0.245 | 0.270 | 0.312 | 0.285 | 0.267 | 0.251 | 0.223 | 0.206 |
| MD Only | % Idle Management Effectiveness | 38.58% | 35.55% | 44.95% | 40.86% | 60.95% | 68.68% | 71.38% | 65.73% | 69.91% | 59.79% | 56.84% | 51.07% |
| | Idle 1 - Main Eng Idle; APU Off | 266.58 | 315.84 | 319.68 | 334.00 | 211.79 | 156.46 | 156.67 | 211.47 | 149.41 | 227.33 | 200.17 | 232.59 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 17.74 | 8.17 | 15.59 | 38.52 | 25.41 | 67.23 | 104.39 |
| | Idle 3 - Main Eng Off; APU Off | 133.52 | 127.29 | 202.11 | 219.82 | 332.00 | 358.32 | 415.23 | 397.02 | 351.71 | 323.06 | 228.96 | 185.52 |
| | Idle 4 - Main Eng Idle; APU On | 77.95 | 18.50 | 17.83 | 13.35 | 3.66 | 14.99 | 13.12 | 3.65 | 18.54 | 6.98 | 24.76 | 45.17 |
| | Total Hours | 670.26 | 629.43 | 733.26 | 696.38 | 655.47 | 636.24 | 685.00 | 734.06 | 653.25 | 713.24 | 617.94 | 666.70 |
| | Gal Fuel Saved | 595.23 | 550.92 | 833.38 | 759.21 | 1,088.88 | 1,209.68 | 1,363.44 | 1,330.14 | 1,231.76 | 1,114.18 | 906.75 | 841.34 |
| | Tons $NO_X$ Reduced | 0.140 | 0.123 | 0.185 | 0.164 | 0.233 | 0.262 | 0.291 | 0.283 | 0.267 | 0.239 | 0.201 | 0.191 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 38.58% | 35.41% | 44.86% | 40.71% | 61.11% | 69.62% | 72.05% | 65.56% | 69.92% | 60.58% | 55.96% | 51.56% |
| | Idle 1 - Main Eng Idle; APU Off | 266.58 | 322.22 | 320.91 | 337.75 | 219.51 | 143.73 | 162.80 | 214.09 | 149.65 | 231.58 | 231.02 | 245.46 |
| | Idle 2 - Main Eng Off; APU On | 82.89 | 57.12 | 73.45 | 20.13 | 4.31 | 42.02 | 29.31 | 15.59 | 38.55 | 25.43 | 70.75 | 111.73 |
| | Idle 3 - Main Eng Off; APU Off | 133.52 | 129.69 | 202.11 | 220.92 | 346.42 | 320.72 | 427.81 | 398.88 | 352.34 | 341.33 | 254.30 | 198.77 |
| | Idle 4 - Main Eng Idle; APU On | 77.95 | 18.50 | 17.83 | 13.35 | 3.66 | 14.59 | 14.56 | 3.65 | 18.54 | 7.08 | 24.76 | 46.25 |
| | Total Hours | 670.26 | 640.02 | 737.14 | 706.29 | 688.70 | 607.17 | 731.24 | 740.47 | 654.81 | 740.57 | 681.65 | 709.02 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 44.50% | 49.90% | 51.12% | 59.58% | 63.45% | 64.58% | 78.09% | 67.86% | 73.04% | 68.44% | 58.38% | 47.65% |
| | Idle 1 - Main Eng Idle; APU Off | 207.51 | 207.27 | 234.28 | 201.85 | 169.76 | 179.63 | 113.41 | 182.85 | 117.73 | 167.19 | 233.17 | 285.18 |
| | Idle 2 - Main Eng Off; APU On | 110.95 | 90.55 | 63.97 | 72.53 | 24.47 | 22.94 | 22.41 | 34.93 | 39.06 | 70.54 | 80.61 | 154.20 |
| | Idle 3 - Main Eng Off; APU Off | 117.78 | 166.40 | 194.52 | 234.00 | 279.76 | 314.21 | 397.13 | 357.69 | 318.50 | 326.09 | 262.83 | 149.08 |
| | Idle 4 - Main Eng Idle; APU On | 77.81 | 50.76 | 12.91 | 6.08 | 5.50 | 5.29 | 4.28 | 3.11 | 14.24 | 15.74 | 11.64 | 47.97 |
| | Main Eng Wkg; APU On | 37.72 | 24.72 | 4.45 | 2.61 | 5.84 | 4.34 | 1.64 | 1.42 | 15.83 | 9.08 | 7.55 | 24.21 |
| | Main Eng Wkg; APU Off | 100.23 | 88.30 | 122.41 | 138.88 | 101.52 | 139.05 | 111.53 | 122.95 | 101.47 | 77.93 | 104.20 | 71.36 |
| | Total Hours | 652.00 | 628.00 | 632.53 | 655.94 | 586.85 | 665.45 | 650.40 | 702.94 | 606.83 | 666.56 | 700.00 | 732.00 |
| | Gal Fuel Saved | 537.10 | 651.90 | 700.56 | 839.38 | 866.06 | 963.17 | 1,204.34 | 1,118.11 | 1,005.47 | 1,096.70 | 937.60 | 745.17 |
| | Tons $NO_X$ Reduced | 0.150 | 0.173 | 0.178 | 0.211 | 0.213 | 0.236 | 0.294 | 0.274 | 0.249 | 0.274 | 0.236 | 0.202 |
| MD Only | % Idle Management Effectiveness | 45.68% | 47.67% | 55.84% | 57.67% | 70.31% | 66.68% | 82.22% | 68.97% | 72.60% | 75.11% | 61.08% | 44.25% |
| | Idle 1 - Main Eng Idle; APU Off | 79.35 | 141.43 | 152.93 | 123.92 | 83.68 | 105.36 | 46.54 | 119.51 | 64.34 | 85.75 | 185.74 | 235.13 |
| | Idle 2 - Main Eng Off; APU On | 70.98 | 68.27 | 58.44 | 47.63 | 18.61 | 19.74 | 16.67 | 33.17 | 23.34 | 35.70 | 64.68 | 115.55 |
| | Idle 3 - Main Eng Off; APU Off | 50.24 | 100.56 | 144.66 | 125.29 | 192.92 | 195.90 | 211.75 | 239.37 | 165.88 | 268.21 | 240.66 | 98.31 |
| | Idle 4 - Main Eng Idle; APU On | 64.83 | 43.89 | 7.72 | 2.98 | 5.64 | 2.39 | 2.87 | 3.10 | 7.09 | 14.95 | 8.83 | 34.25 |
| | Total Hours | 311.99 | 414.73 | 437.65 | 347.61 | 343.18 | 366.81 | 299.12 | 450.96 | 312.76 | 453.01 | 547.24 | 537.42 |
| | Gal Fuel Saved | 260.11 | 415.06 | 546.49 | 469.22 | 599.81 | 613.26 | 652.28 | 769.37 | 530.57 | 850.93 | 839.42 | 520.47 |
| | Tons $NO_X$ Reduced | 0.077 | 0.112 | 0.139 | 0.119 | 0.148 | 0.151 | 0.160 | 0.190 | 0.131 | 0.211 | 0.211 | 0.142 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 45.26% | 49.08% | 51.91% | 58.28% | 67.17% | 65.86% | 81.47% | 69.71% | 73.37% | 71.75% | 60.70% | 47.88% |
| | Idle 1 - Main Eng Idle; APU Off | 158.40 | 192.00 | 232.25 | 176.84 | 127.50 | 117.44 | 81.44 | 155.58 | 106.74 | 131.59 | 196.61 | 277.75 |
| | Idle 2 - Main Eng Off; APU On | 107.78 | 80.12 | 67.27 | 68.87 | 21.76 | 15.68 | 20.16 | 31.30 | 30.13 | 61.46 | 74.20 | 153.25 |
| | Idle 3 - Main Eng Off; APU Off | 87.21 | 149.21 | 195.76 | 185.23 | 249.71 | 216.28 | 352.48 | 333.62 | 300.19 | 309.21 | 244.84 | 144.77 |
| | Idle 4 - Main Eng Idle; APU On | 77.43 | 45.89 | 11.40 | 5.08 | 5.16 | 2.81 | 3.29 | 2.97 | 13.13 | 14.38 | 9.93 | 46.66 |
| | Total Hours | 530.84 | 567.13 | 630.47 | 544.29 | 479.96 | 423.50 | 525.72 | 618.76 | 550.96 | 594.66 | 604.83 | 715.88 |

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 10,497.00 | 10,136.77 | 10,395.72 | 9,660.37 | 5,816.80 | 5,216.58 | 4,503.47 | 5,558.38 | 4,964.93 | 7,235.05 | 8,785.62 | 12,323.97 |
| | Idle 2 - Main Eng Off; APU On | 4,850.98 | 4,647.60 | 3,918.22 | 2,275.00 | 853.53 | 983.82 | 1,126.18 | 864.62 | 1,571.28 | 2,260.73 | 3,633.83 | 5,720.57 |
| | Idle 3 - Main Eng Off; APU Off | 5,507.30 | 6,369.20 | 8,782.87 | 9,997.60 | 15,174.95 | 15,643.85 | 17,864.30 | 18,231.65 | 17,456.67 | 16,955.95 | 12,701.53 | 6,517.05 |
| | Idle 4 - Main Eng Idle; APU On | 2,133.75 | 1,487.35 | 862.80 | 422.13 | 232.60 | 157.98 | 151.40 | 193.42 | 255.25 | 332.73 | 519.23 | 1,375.70 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 22,989.03 | 22,640.92 | 23,959.60 | 22,355.10 | 22,077.88 | 22,002.23 | 23,645.35 | 24,848.07 | 24,248.13 | 26,784.47 | 25,640.22 | 25,937.28 |
| | Gal Fuel Saved | 30,366.46 | 33,559.04 | 39,996.47 | 39,993.30 | 54,837.61 | 56,195.44 | 63,864.49 | 65,183.78 | 64,295.75 | 64,053.02 | 53,289.66 | 36,128.55 |
| | Tons $NO_X$ Reduced | 7.323 | 8.039 | 9.332 | 9.129 | 12.284 | 12.653 | 14.337 | 14.590 | 14.449 | 14.470 | 12.250 | 8.662 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 4,970.38 | 5,427.27 | 5,072.60 | 4,941.82 | 2,631.13 | 2,444.32 | 2,239.60 | 3,289.10 | 3,159.52 | 4,155.83 | 6,169.12 | 8,714.67 |
| | Idle 2 - Main Eng Off; APU On | 2,757.80 | 2,074.65 | 1,871.35 | 1,276.33 | 500.00 | 388.63 | 635.45 | 617.43 | 1,105.72 | 1,283.62 | 2,892.80 | 4,354.63 |
| | Idle 3 - Main Eng Off; APU Off | 3,205.70 | 2,852.58 | 4,495.02 | 4,746.08 | 7,620.60 | 7,672.25 | 9,829.02 | 12,263.80 | 12,468.40 | 11,412.77 | 10,080.75 | 4,928.05 |
| | Idle 4 - Main Eng Idle; APU On | 1,230.08 | 702.68 | 373.92 | 177.70 | 106.57 | 94.50 | 91.22 | 106.93 | 183.05 | 264.73 | 416.33 | 1,060.07 |
| | Total Hours | 12,163.97 | 11,057.18 | 11,812.88 | 11,141.93 | 10,858.30 | 10,599.70 | 12,795.28 | 16,277.27 | 16,916.68 | 17,116.95 | 19,559.00 | 19,057.42 |
| | Gal Fuel Saved | 17,907.51 | 14,420.60 | 19,138.78 | 18,786.89 | 27,073.55 | 27,015.00 | 34,740.66 | 43,803.17 | 46,003.23 | 42,594.88 | 42,310.23 | 27,431.16 |
| | Tons $NO_X$ Reduced | 4.219 | 3.486 | 4.458 | 4.327 | 6.084 | 6.015 | 7.724 | 9.727 | 10.267 | 9.584 | 9.733 | 6.543 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 9,524.60 | 9,375.42 | 8,757.80 | 8,045.82 | 4,277.35 | 4,318.10 | 3,972.10 | 5,240.42 | 4,651.57 | 6,535.02 | 8,301.33 | 11,740.88 |
| | Idle 2 - Main Eng Off; APU On | 4,361.63 | 4,118.03 | 3,543.53 | 2,078.08 | 710.07 | 880.68 | 1,058.40 | 733.05 | 1,435.97 | 2,116.45 | 3,531.97 | 5,508.52 |
| | Idle 3 - Main Eng Off; APU Off | 4,512.62 | 5,431.95 | 7,514.82 | 8,045.62 | 12,932.13 | 13,836.92 | 16,994.57 | 17,680.60 | 16,970.43 | 16,719.83 | 12,141.95 | 6,334.27 |
| | Idle 4 - Main Eng Idle; APU On | 1,964.03 | 1,360.95 | 759.27 | 236.35 | 127.27 | 136.40 | 130.85 | 167.68 | 243.53 | 315.05 | 500.30 | 1,346.12 |
| | Total Hours | 20,362.88 | 20,286.35 | 20,575.42 | 18,405.87 | 18,046.82 | 19,172.10 | 22,155.92 | 23,821.75 | 23,301.50 | 25,686.35 | 24,475.55 | 24,929.78 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,519.43 | 2,655.98 | 2,768.55 | 2,959.37 | 1,461.40 | 1,234.08 | 1,205.67 | 1,212.87 | 1,276.07 | 1,633.38 | 2,211.97 | 3,472.02 |
| | Idle 2 - Main Eng Off; APU On | 907.18 | 1,098.48 | 974.87 | 740.90 | 273.63 | 238.95 | 398.48 | 227.77 | 373.72 | 467.50 | 841.05 | 935.80 |
| | Idle 3 - Main Eng Off; APU Off | 406.77 | 541.17 | 1,149.23 | 1,805.23 | 2,825.27 | 3,460.58 | 3,684.17 | 3,813.62 | 3,666.60 | 3,339.45 | 2,541.55 | 810.53 |
| | Idle 4 - Main Eng Idle; APU On | 476.45 | 465.53 | 343.27 | 43.92 | 33.20 | 20.10 | 36.47 | 82.25 | 44.72 | 62.53 | 173.98 | 210.08 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 4,309.83 | 4,761.17 | 5,235.92 | 5,549.42 | 4,593.50 | 4,953.72 | 5,324.78 | 5,336.50 | 5,361.10 | 5,502.87 | 5,768.55 | 5,428.43 |
| | Gal Fuel Saved | 3,379.06 | 4,525.97 | 6,387.15 | 8,184.98 | 10,648.05 | 12,765.05 | 13,568.10 | 13,812.83 | 13,606.23 | 12,486.16 | 10,988.44 | 4,993.86 |
| | Tons $NO_X$ Reduced | 0.922 | 1.221 | 1.636 | 2.002 | 2.550 | 3.044 | 3.221 | 3.289 | 3.241 | 2.971 | 2.691 | 1.275 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 793.07 | 1,004.15 | 1,455.40 | 1,323.13 | 352.55 | 495.58 | 377.32 | 476.67 | 549.75 | 793.33 | 1,161.40 | 1,929.78 |
| | Idle 2 - Main Eng Off; APU On | 497.78 | 572.25 | 423.52 | 469.63 | 200.42 | 113.75 | 341.53 | 107.28 | 241.82 | 226.38 | 732.13 | 609.20 |
| | Idle 3 - Main Eng Off; APU Off | 171.27 | 292.27 | 499.65 | 746.32 | 880.83 | 1,053.18 | 1,164.43 | 2,061.82 | 2,069.98 | 2,012.07 | 1,547.40 | 557.75 |
| | Idle 4 - Main Eng Idle; APU On | 147.87 | 120.67 | 173.22 | 22.75 | 18.90 | 6.87 | 13.53 | 40.02 | 22.73 | 44.95 | 136.18 | 140.13 |
| | Total Hours | 1,609.98 | 1,989.33 | 2,551.78 | 2,561.83 | 1,452.70 | 1,669.38 | 1,896.82 | 2,685.78 | 2,884.28 | 3,076.73 | 3,577.12 | 3,236.87 |
| | Gal Fuel Saved | 1,675.79 | 2,581.62 | 2,606.97 | 3,718.63 | 3,441.95 | 3,729.04 | 4,673.54 | 7,523.70 | 7,737.12 | 7,566.10 | 7,294.04 | 3,319.15 |
| | Tons $NO_X$ Reduced | 0.446 | 0.684 | 0.662 | 0.915 | 0.822 | 0.874 | 1.115 | 1.796 | 1.844 | 1.811 | 1.808 | 0.844 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,345.10 | 2,575.62 | 2,538.42 | 2,351.15 | 1,013.83 | 1,187.92 | 1,036.15 | 1,158.40 | 1,178.38 | 1,620.83 | 2,198.17 | 3,328.33 |
| | Idle 2 - Main Eng Off; APU On | 845.80 | 1,098.07 | 807.90 | 618.37 | 223.62 | 237.40 | 386.15 | 120.83 | 336.25 | 459.43 | 841.05 | 899.23 |
| | Idle 3 - Main Eng Off; APU Off | 301.13 | 529.13 | 930.57 | 1,365.32 | 2,337.12 | 3,446.92 | 3,563.67 | 3,703.33 | 3,507.90 | 3,334.22 | 2,498.68 | 806.25 |
| | Idle 4 - Main Eng Idle; APU On | 465.65 | 464.37 | 305.85 | 32.20 | 23.88 | 19.88 | 31.62 | 78.55 | 44.02 | 62.50 | 173.78 | 209.08 |
| | Total Hours | 3,957.68 | 4,667.18 | 4,582.73 | 4,367.03 | 3,598.45 | 4,892.12 | 5,017.58 | 5,061.12 | 5,066.55 | 5,476.98 | 5,711.68 | 5,242.90 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 4,746.72 | 4,192.67 | 4,057.22 | 3,518.67 | 2,141.72 | 1,919.90 | 1,971.05 | 2,418.67 | 2,248.02 | 3,469.42 | 3,558.17 | 4,857.28 |
| | Idle 2 - Main Eng Off; APU On | 2,079.47 | 2,111.93 | 1,674.67 | 618.13 | 272.32 | 205.88 | 332.88 | 258.35 | 637.37 | 827.18 | 1,425.17 | 2,238.75 |
| | Idle 3 - Main Eng Off; APU Off | 2,822.42 | 3,105.87 | 3,984.43 | 4,339.63 | 6,924.67 | 6,782.03 | 7,841.83 | 8,509.35 | 8,199.48 | 7,779.77 | 5,487.70 | 2,663.45 |
| | Idle 4 - Main Eng Idle; APU On | 673.82 | 538.18 | 309.87 | 262.55 | 132.72 | 28.83 | 34.12 | 60.62 | 54.82 | 75.45 | 144.52 | 490.03 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 10,322.42 | 9,948.65 | 10,026.18 | 8,738.98 | 9,471.42 | 8,936.65 | 10,179.88 | 11,246.98 | 11,139.68 | 12,151.82 | 10,615.55 | 10,249.52 |
| | Gal Fuel Saved | 16,350.65 | 17,769.68 | 19,652.36 | 18,064.01 | 26,952.73 | 25,653.02 | 30,012.14 | 32,419.43 | 32,391.89 | 31,711.23 | 25,000.19 | 16,339.96 |
| | Tons $NO_X$ Reduced | 3.674 | 4.020 | 4.345 | 3.852 | 5.745 | 5.489 | 6.450 | 6.939 | 6.947 | 6.810 | 5.414 | 3.673 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 2,239.18 | 1,904.23 | 1,084.13 | 1,121.18 | 847.40 | 898.70 | 923.82 | 1,337.90 | 1,502.27 | 1,958.77 | 2,723.12 | 3,313.78 |
| | Idle 2 - Main Eng Off; APU On | 1,002.63 | 443.73 | 359.27 | 200.52 | 92.83 | 35.05 | 79.28 | 147.63 | 415.60 | 552.67 | 1,040.80 | 1,696.22 |
| | Idle 3 - Main Eng Off; APU Off | 1,623.97 | 724.92 | 1,197.62 | 1,349.30 | 2,713.25 | 3,314.23 | 4,010.15 | 5,589.12 | 6,328.50 | 4,773.38 | 4,419.32 | 1,971.65 |
| | Idle 4 - Main Eng Idle; APU On | 301.93 | 195.47 | 58.67 | 68.02 | 28.33 | 12.67 | 14.45 | 18.78 | 38.80 | 56.43 | 113.45 | 379.62 |
| | Total Hours | 5,167.72 | 3,268.35 | 2,699.68 | 2,739.02 | 3,681.82 | 4,260.65 | 5,027.70 | 7,093.43 | 8,285.17 | 7,341.25 | 8,296.68 | 7,361.27 |
| | Gal Fuel Saved | 9,338.71 | 3,944.69 | 5,411.17 | 5,500.59 | 10,718.32 | 12,405.86 | 15,138.09 | 21,140.40 | 24,626.14 | 19,740.84 | 19,922.15 | 12,256.39 |
| | Tons $NO_X$ Reduced | 2.036 | 0.867 | 1.157 | 1.182 | 2.319 | 2.672 | 3.237 | 4.491 | 5.305 | 4.229 | 4.326 | 2.746 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 4,533.30 | 3,641.02 | 2,898.73 | 2,727.95 | 1,402.18 | 1,674.42 | 1,828.55 | 2,354.18 | 2,094.45 | 3,078.58 | 3,434.40 | 4,476.87 |
| | Idle 2 - Main Eng Off; APU On | 1,792.10 | 1,693.73 | 1,494.33 | 579.52 | 206.92 | 181.90 | 296.30 | 242.75 | 608.32 | 785.12 | 1,384.73 | 2,079.00 |
| | Idle 3 - Main Eng Off; APU Off | 2,352.22 | 2,346.73 | 3,113.57 | 3,315.27 | 5,524.57 | 6,119.35 | 7,447.15 | 8,260.08 | 8,047.42 | 7,697.20 | 5,158.43 | 2,528.53 |
| | Idle 4 - Main Eng Idle; APU On | 571.95 | 452.05 | 272.90 | 98.52 | 39.70 | 26.32 | 26.40 | 39.98 | 50.62 | 69.55 | 141.77 | 472.95 |
| | Total Hours | 9,249.57 | 8,133.53 | 7,779.53 | 6,721.25 | 7,173.37 | 8,001.98 | 9,598.40 | 10,897.00 | 10,800.80 | 11,630.45 | 10,119.33 | 9,557.35 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.58 | 1,528.35 | 1,539.05 | 1,604.30 | 886.50 | 702.17 | 630.25 | 847.23 | 615.70 | 871.33 | 1,069.42 | 1,257.00 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 296.87 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 738.63 |
| | Idle 3 - Main Eng Off; APU Off | 930.93 | 891.35 | 1,380.72 | 1,473.18 | 2,320.90 | 2,315.32 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,716.15 | 1,375.53 |
| | Idle 4 - Main Eng Idle; APU On | 329.30 | 84.60 | 80.87 | 61.32 | 22.90 | 67.55 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.58 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 3,180.13 | 2,901.68 | 3,512.60 | 3,273.15 | 3,259.55 | 3,381.90 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,329.07 | 3,593.75 |
| | Gal Fuel Saved | 4,271.55 | 3,884.63 | 5,748.12 | 5,105.24 | 7,600.38 | 8,273.09 | 9,419.70 | 8,746.79 | 8,082.15 | 7,727.59 | 6,734.24 | 6,218.46 |
| | Tons $NO_X$ Reduced | 0.980 | 0.860 | 1.272 | 1.097 | 1.626 | 1.792 | 2.013 | 1.864 | 1.745 | 1.655 | 1.481 | 1.400 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,494.38 | 1,538.45 | 1,594.92 | 874.95 | 552.92 | 614.33 | 838.33 | 614.83 | 854.68 | 886.92 | 1,163.00 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 103.68 | 52.77 | 105.73 | 224.93 | 167.50 | 434.67 | 688.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 875.85 | 1,380.72 | 1,465.48 | 2,226.60 | 2,026.63 | 2,697.67 | 2,602.32 | 2,320.33 | 2,129.22 | 1,566.70 | 1,269.67 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 60.95 | 36.57 | 23.77 | 67.13 | 43.97 | 86.85 | 219.00 |
| | Total Hours | 3,168.43 | 2,852.22 | 3,512.00 | 3,256.07 | 3,153.70 | 2,744.18 | 3,401.33 | 3,570.15 | 3,227.23 | 3,195.37 | 2,975.13 | 3,339.90 |
| | Gal Fuel Saved | 4,245.29 | 3,831.49 | 5,748.12 | 5,080.49 | 7,297.27 | 6,861.29 | 8,884.05 | 8,724.29 | 8,080.76 | 7,338.58 | 6,198.34 | 5,753.21 |
| | Tons $NO_X$ Reduced | 0.974 | 0.849 | 1.272 | 1.092 | 1.563 | 1.482 | 1.891 | 1.859 | 1.745 | 1.574 | 1.368 | 1.299 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,528.35 | 1,539.05 | 1,604.30 | 885.75 | 585.70 | 630.25 | 847.23 | 615.70 | 871.33 | 1,050.37 | 1,235.78 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 291.08 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 734.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 891.35 | 1,380.72 | 1,473.18 | 2,302.28 | 2,109.28 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,713.52 | 1,361.08 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 66.87 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.55 |
| | Total Hours | 3,168.43 | 2,901.68 | 3,512.60 | 3,273.15 | 3,240.18 | 3,052.93 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,307.38 | 3,553.65 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,879.27 | 1,759.77 | 2,030.90 | 1,578.03 | 1,327.18 | 1,360.43 | 696.50 | 1,079.62 | 825.15 | 1,260.92 | 1,946.07 | 2,737.67 |
| | Idle 2 - Main Eng Off; APU On | 1,296.02 | 1,039.80 | 756.72 | 781.62 | 278.33 | 242.12 | 215.33 | 272.77 | 335.27 | 798.55 | 910.97 | 1,807.38 |
| | Idle 3 - Main Eng Off; APU Off | 1,347.18 | 1,830.82 | 2,268.48 | 2,379.55 | 3,104.12 | 3,085.92 | 3,572.25 | 3,299.37 | 3,269.82 | 3,586.42 | 2,956.13 | 1,667.53 |
| | Idle 4 - Main Eng Idle; APU On | 654.18 | 399.03 | 128.80 | 54.35 | 43.78 | 41.50 | 37.65 | 26.78 | 88.58 | 150.43 | 113.88 | 453.00 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 5,176.65 | 5,029.42 | 5,184.90 | 4,793.55 | 4,753.42 | 4,729.97 | 4,521.73 | 4,678.53 | 4,518.82 | 5,796.32 | 5,927.05 | 6,665.58 |
| | Gal Fuel Saved | 6,365.20 | 7,378.76 | 8,208.83 | 8,639.07 | 9,636.45 | 9,504.28 | 10,864.55 | 10,204.73 | 10,215.48 | 12,128.04 | 10,566.79 | 8,576.28 |
| | Tons $NO_X$ Reduced | 1.747 | 1.937 | 2.079 | 2.178 | 2.364 | 2.328 | 2.653 | 2.499 | 2.514 | 3.033 | 2.664 | 2.315 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 586.95 | 1,024.50 | 994.62 | 902.58 | 556.23 | 497.12 | 324.13 | 636.20 | 492.67 | 549.05 | 1,397.68 | 2,308.10 |
| | Idle 2 - Main Eng Off; APU On | 689.07 | 661.28 | 576.60 | 471.83 | 177.50 | 136.15 | 161.87 | 256.78 | 223.37 | 337.07 | 685.20 | 1,360.98 |
| | Idle 3 - Main Eng Off; APU Off | 488.40 | 959.55 | 1,417.03 | 1,184.98 | 1,799.92 | 1,278.20 | 1,956.77 | 2,010.55 | 1,749.58 | 2,498.10 | 2,547.33 | 1,128.98 |
| | Idle 4 - Main Eng Idle; APU On | 453.42 | 301.95 | 61.17 | 25.62 | 36.43 | 14.02 | 26.67 | 24.37 | 54.38 | 119.38 | 79.85 | 321.32 |
| | Total Hours | 2,217.83 | 2,947.28 | 3,049.42 | 2,585.02 | 2,570.08 | 1,925.48 | 2,469.43 | 2,927.90 | 2,520.00 | 3,503.60 | 4,710.07 | 5,119.38 |
| | Gal Fuel Saved | 2,647.73 | 4,062.79 | 5,372.51 | 4,487.19 | 5,616.00 | 4,018.81 | 6,044.97 | 6,414.79 | 5,559.20 | 7,949.36 | 8,895.70 | 6,102.42 |
| | Tons $NO_X$ Reduced | 0.762 | 1.085 | 1.367 | 1.138 | 1.380 | 0.987 | 1.481 | 1.581 | 1.373 | 1.970 | 2.232 | 1.655 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,295.02 | 1,630.43 | 1,781.60 | 1,362.42 | 975.58 | 870.07 | 477.15 | 880.60 | 763.03 | 964.27 | 1,618.40 | 2,699.90 |
| | Idle 2 - Main Eng Off; APU On | 1,155.42 | 928.85 | 729.33 | 745.85 | 250.28 | 170.30 | 196.47 | 263.73 | 266.47 | 704.40 | 849.53 | 1,796.05 |
| | Idle 3 - Main Eng Off; APU Off | 937.20 | 1,664.73 | 2,089.97 | 1,891.85 | 2,768.17 | 2,161.37 | 3,217.70 | 3,107.87 | 3,094.35 | 3,438.10 | 2,771.32 | 1,638.40 |
| | Idle 4 - Main Eng Idle; APU On | 599.57 | 359.93 | 99.65 | 44.32 | 40.78 | 23.33 | 29.67 | 25.38 | 81.77 | 138.68 | 97.90 | 441.53 |
| | Total Hours | 3,987.20 | 4,583.95 | 4,700.55 | 4,044.43 | 4,034.82 | 3,225.07 | 3,920.98 | 4,277.58 | 4,205.62 | 5,245.45 | 5,337.15 | 6,575.88 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 45.06% | 48.66% | 53.01% | 54.90% | 72.60% | 75.57% | 80.31% | 76.85% | 78.47% | 71.75% | 63.71% | 47.18% |
| | Idle 1 - Main Eng Idle; APU Off | 194.39 | 184.30 | 185.64 | 182.27 | 114.05 | 102.29 | 91.91 | 106.89 | 93.68 | 131.55 | 159.74 | 228.22 |
| | Idle 2 - Main Eng Off; APU On | 89.83 | 84.50 | 69.97 | 42.92 | 16.74 | 19.29 | 22.98 | 16.63 | 29.65 | 41.10 | 66.07 | 105.94 |
| | Idle 3 - Main Eng Off; APU Off | 101.99 | 115.80 | 156.84 | 188.63 | 297.55 | 306.74 | 364.58 | 350.61 | 329.37 | 308.29 | 230.94 | 120.69 |
| | Idle 4 - Main Eng Idle; APU On | 39.51 | 27.04 | 15.41 | 7.96 | 4.56 | 3.10 | 3.09 | 3.72 | 4.82 | 6.05 | 9.44 | 25.48 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 425.72 | 411.65 | 427.85 | 421.79 | 432.90 | 431.42 | 482.56 | 477.85 | 457.51 | 486.99 | 466.19 | 480.32 |
| | Gal Fuel Saved | 562.34 | 610.16 | 714.22 | 754.59 | 1075.25 | 1101.87 | 1303.36 | 1253.53 | 1213.13 | 1164.60 | 968.90 | 669.05 |
| | Tons $NO_x$ Reduced | 0.136 | 0.146 | 0.167 | 0.172 | 0.241 | 0.248 | 0.293 | 0.281 | 0.273 | 0.263 | 0.223 | 0.160 |
| MD Only | % Idle Management Effectiveness | 49.03% | 44.56% | 53.89% | 54.05% | 74.79% | 76.05% | 81.78% | 79.14% | 80.24% | 74.17% | 66.33% | 48.71% |
| | Idle 1 - Main Eng Idle; APU Off | 115.59 | 115.47 | 112.72 | 107.43 | 59.80 | 61.11 | 49.77 | 68.52 | 59.61 | 78.41 | 114.24 | 167.59 |
| | Idle 2 - Main Eng Off; APU On | 64.13 | 44.14 | 41.59 | 27.75 | 11.36 | 9.72 | 14.12 | 12.86 | 20.86 | 24.22 | 53.57 | 83.74 |
| | Idle 3 - Main Eng Off; APU Off | 74.55 | 60.69 | 99.89 | 103.18 | 173.20 | 191.81 | 218.42 | 255.50 | 235.25 | 215.34 | 186.68 | 94.77 |
| | Idle 4 - Main Eng Idle; APU On | 28.61 | 14.95 | 8.31 | 3.86 | 2.42 | 2.36 | 2.03 | 2.23 | 3.45 | 4.99 | 7.71 | 20.39 |
| | Total Hours | 282.88 | 235.26 | 262.51 | 242.22 | 246.78 | 264.99 | 284.34 | 339.11 | 319.18 | 322.96 | 362.20 | 366.49 |
| | Gal Fuel Saved | 416.45 | 306.82 | 425.31 | 408.41 | 615.31 | 675.37 | 772.01 | 912.57 | 867.99 | 803.68 | 783.52 | 527.52 |
| | Tons $NO_x$ Reduced | 0.098 | 0.074 | 0.099 | 0.094 | 0.138 | 0.150 | 0.172 | 0.203 | 0.194 | 0.181 | 0.180 | 0.126 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 43.58% | 47.08% | 53.75% | 55.00% | 75.59% | 76.77% | 81.48% | 77.30% | 78.99% | 73.33% | 64.04% | 47.50% |
| | Idle 1 - Main Eng Idle; APU Off | 186.76 | 176.89 | 168.42 | 164.20 | 87.29 | 86.36 | 81.06 | 100.78 | 87.77 | 118.82 | 150.93 | 221.53 |
| | Idle 2 - Main Eng Off; APU On | 85.52 | 77.70 | 68.14 | 42.41 | 14.49 | 17.61 | 21.60 | 14.10 | 27.09 | 38.48 | 64.22 | 103.93 |
| | Idle 3 - Main Eng Off; APU Off | 88.48 | 102.49 | 144.52 | 164.20 | 263.92 | 276.74 | 346.83 | 340.01 | 320.20 | 304.00 | 220.76 | 119.51 |
| | Idle 4 - Main Eng Idle; APU On | 38.51 | 25.68 | 14.60 | 4.82 | 2.60 | 2.73 | 2.67 | 3.22 | 4.59 | 5.73 | 9.10 | 25.40 |
| | Total Hours | 399.27 | 382.76 | 395.68 | 375.63 | 368.30 | 383.44 | 452.16 | 458.11 | 439.65 | 467.02 | 445.01 | 470.37 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 30.49% | 34.44% | 40.57% | 45.88% | 67.46% | 74.68% | 76.67% | 75.73% | 75.36% | 69.18% | 58.64% | 32.17% |
| | Idle 1 - Main Eng Idle; APU Off | 229.04 | 221.33 | 212.97 | 227.64 | 132.85 | 112.19 | 109.61 | 101.07 | 116.01 | 136.12 | 184.33 | 289.33 |
| | Idle 2 - Main Eng Off; APU On | 82.47 | 91.54 | 74.99 | 56.99 | 24.88 | 21.72 | 36.23 | 18.98 | 33.97 | 38.96 | 70.09 | 77.98 |
| | Idle 3 - Main Eng Off; APU Off | 36.98 | 45.10 | 88.40 | 138.86 | 256.84 | 314.60 | 334.92 | 317.80 | 333.33 | 278.29 | 211.80 | 67.54 |
| | Idle 4 - Main Eng Idle; APU On | 43.31 | 38.79 | 26.41 | 3.38 | 3.02 | 1.83 | 3.32 | 6.85 | 4.07 | 5.21 | 14.50 | 17.51 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 391.80 | 396.76 | 402.76 | 426.88 | 417.59 | 450.34 | 484.07 | 444.71 | 487.37 | 458.57 | 480.71 | 452.37 |
| | Gal Fuel Saved | 307.19 | 377.16 | 491.32 | 629.61 | 968.00 | 1,160.46 | 1,233.46 | 1,151.07 | 1,236.93 | 1,040.51 | 915.70 | 416.15 |
| | Tons $NO_x$ Reduced | 0.084 | 0.102 | 0.126 | 0.154 | 0.232 | 0.277 | 0.293 | 0.274 | 0.295 | 0.248 | 0.224 | 0.106 |
| MD Only | % Idle Management Effectiveness | 41.56% | 43.46% | 36.18% | 47.46% | 74.43% | 69.90% | 79.39% | 80.76% | 80.15% | 72.75% | 63.73% | 36.05% |
| | Idle 1 - Main Eng Idle; APU Off | 88.12 | 91.29 | 111.95 | 132.31 | 35.26 | 49.56 | 47.16 | 47.67 | 49.98 | 66.11 | 96.78 | 160.82 |
| | Idle 2 - Main Eng Off; APU On | 55.31 | 52.02 | 32.58 | 46.96 | 20.04 | 11.38 | 42.69 | 10.73 | 21.98 | 18.87 | 61.01 | 50.77 |
| | Idle 3 - Main Eng Off; APU Off | 19.03 | 26.57 | 38.43 | 74.63 | 88.08 | 105.32 | 145.55 | 206.18 | 188.18 | 167.67 | 128.95 | 46.48 |
| | Idle 4 - Main Eng Idle; APU On | 16.43 | 10.97 | 13.32 | 2.28 | 1.89 | 0.69 | 1.69 | 4.00 | 2.07 | 3.75 | 11.35 | 11.68 |
| | Total Hours | 178.89 | 180.85 | 196.29 | 256.18 | 145.27 | 166.94 | 237.10 | 268.58 | 262.21 | 256.39 | 298.09 | 269.74 |
| | Gal Fuel Saved | 186.20 | 234.69 | 200.54 | 371.86 | 344.20 | 372.90 | 584.19 | 752.37 | 703.37 | 630.51 | 607.84 | 276.60 |
| | Tons $NO_x$ Reduced | 0.050 | 0.062 | 0.051 | 0.092 | 0.082 | 0.087 | 0.139 | 0.180 | 0.168 | 0.151 | 0.151 | 0.070 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 28.98% | 34.86% | 37.94% | 45.42% | 71.16% | 75.31% | 78.72% | 75.56% | 75.87% | 69.27% | 58.47% | 32.53% |
| | Idle 1 - Main Eng Idle; APU Off | 213.19 | 214.63 | 195.26 | 213.74 | 92.17 | 107.99 | 94.20 | 96.53 | 107.13 | 135.07 | 183.18 | 277.36 |
| | Idle 2 - Main Eng Off; APU On | 76.89 | 91.51 | 62.15 | 56.22 | 20.33 | 21.58 | 35.10 | 10.07 | 30.57 | 38.29 | 70.09 | 74.94 |
| | Idle 3 - Main Eng Off; APU Off | 27.38 | 44.09 | 71.58 | 124.12 | 212.47 | 313.36 | 323.97 | 308.61 | 318.90 | 277.85 | 208.22 | 67.19 |
| | Idle 4 - Main Eng Idle; APU On | 42.33 | 38.70 | 23.53 | 2.93 | 2.17 | 1.81 | 2.87 | 6.55 | 4.00 | 5.21 | 14.48 | 17.42 |
| | Total Hours | 359.79 | 388.93 | 352.52 | 397.00 | 327.13 | 444.74 | 456.14 | 421.76 | 460.60 | 456.42 | 475.97 | 436.91 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 47.49% | 52.45% | 56.44% | 56.73% | 75.99% | 78.19% | 80.30% | 77.96% | 79.33% | 70.83% | 65.12% | 47.83% |
| | Idle 1 - Main Eng Idle; APU Off | 197.78 | 174.69 | 169.05 | 159.94 | 101.99 | 87.27 | 93.86 | 105.16 | 93.67 | 144.56 | 148.26 | 211.19 |
| | Idle 2 - Main Eng Off; APU On | 86.64 | 88.00 | 69.78 | 28.10 | 12.97 | 9.36 | 15.85 | 11.23 | 26.56 | 34.47 | 59.38 | 97.34 |
| | Idle 3 - Main Eng Off; APU Off | 117.60 | 129.41 | 166.02 | 197.26 | 329.75 | 308.27 | 373.42 | 369.97 | 341.65 | 324.16 | 228.65 | 115.80 |
| | Idle 4 - Main Eng Idle; APU On | 28.08 | 22.42 | 12.91 | 11.93 | 6.32 | 1.31 | 1.62 | 2.64 | 2.28 | 3.14 | 6.02 | 21.31 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 430.10 | 414.53 | 417.76 | 397.23 | 451.02 | 406.21 | 484.76 | 489.00 | 464.15 | 506.33 | 442.31 | 445.63 |
| | Gal Fuel Saved | 681.28 | 740.40 | 818.85 | 821.09 | 1,283.46 | 1,166.05 | 1,429.15 | 1,409.54 | 1,349.66 | 1,321.30 | 1,041.67 | 710.43 |
| | Tons $NO_x$ Reduced | 0.153 | 0.167 | 0.181 | 0.175 | 0.274 | 0.250 | 0.307 | 0.302 | 0.289 | 0.284 | 0.226 | 0.160 |
| MD Only | % Idle Management Effectiveness | 50.83% | 35.76% | 57.67% | 56.58% | 76.21% | 78.61% | 81.34% | 80.87% | 81.40% | 72.55% | 65.81% | 49.83% |
| | Idle 1 - Main Eng Idle; APU Off | 131.72 | 100.22 | 72.28 | 59.01 | 49.85 | 52.86 | 46.19 | 60.81 | 62.59 | 81.62 | 113.46 | 157.80 |
| | Idle 2 - Main Eng Off; APU On | 58.98 | 23.35 | 23.95 | 10.55 | 5.46 | 2.06 | 3.96 | 6.71 | 17.32 | 23.03 | 43.37 | 80.77 |
| | Idle 3 - Main Eng Off; APU Off | 95.53 | 38.15 | 79.84 | 71.02 | 159.60 | 194.95 | 200.51 | 254.05 | 263.69 | 198.89 | 184.14 | 93.89 |
| | Idle 4 - Main Eng Idle; APU On | 17.76 | 10.29 | 3.91 | 3.58 | 1.67 | 0.75 | 0.72 | 0.85 | 1.62 | 2.35 | 4.73 | 18.08 |
| | Total Hours | 303.98 | 172.02 | 179.98 | 144.16 | 216.58 | 250.63 | 251.39 | 322.43 | 345.22 | 305.89 | 345.70 | 350.54 |
| | Gal Fuel Saved | 549.34 | 207.62 | 360.74 | 289.50 | 630.49 | 729.76 | 756.90 | 960.93 | 1,026.09 | 822.54 | 830.09 | 583.64 |
| | Tons $NO_x$ Reduced | 0.120 | 0.046 | 0.077 | 0.062 | 0.136 | 0.157 | 0.162 | 0.204 | 0.221 | 0.176 | 0.180 | 0.131 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 44.81% | 49.68% | 59.23% | 57.95% | 79.90% | 78.75% | 80.67% | 78.03% | 80.14% | 72.93% | 64.66% | 48.21% |
| | Idle 1 - Main Eng Idle; APU Off | 206.06 | 165.50 | 138.03 | 136.40 | 73.80 | 79.73 | 87.07 | 102.36 | 87.27 | 128.27 | 143.10 | 203.49 |
| | Idle 2 - Main Eng Off; APU On | 81.46 | 76.99 | 71.16 | 28.98 | 10.89 | 8.66 | 14.11 | 10.55 | 25.35 | 32.71 | 57.70 | 94.50 |
| | Idle 3 - Main Eng Off; APU Off | 106.92 | 106.67 | 148.27 | 165.76 | 290.77 | 291.40 | 354.63 | 359.13 | 335.31 | 320.72 | 214.93 | 114.93 |
| | Idle 4 - Main Eng Idle; APU On | 26.00 | 20.55 | 13.00 | 4.93 | 2.09 | 1.25 | 1.26 | 1.74 | 2.11 | 2.90 | 5.91 | 21.50 |
| | Total Hours | 420.43 | 369.71 | 370.45 | 336.06 | 377.55 | 381.05 | 457.07 | 473.78 | 450.03 | 484.60 | 421.64 | 434.42 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 47.14% | 44.41% | 53.88% | 49.11% | 72.10% | 77.24% | 81.39% | 75.71% | 78.85% | 72.53% | 65.27% | 58.83% |
| | Idle 1 - Main Eng Idle; APU Off | 193.08 | 218.34 | 219.86 | 229.19 | 126.64 | 100.31 | 90.04 | 121.03 | 87.96 | 124.48 | 152.77 | 179.57 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 42.41 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 105.52 |
| | Idle 3 - Main Eng Off; APU Off | 132.99 | 127.34 | 197.25 | 210.45 | 331.56 | 330.76 | 395.15 | 372.76 | 331.54 | 321.47 | 245.16 | 196.50 |
| | Idle 4 - Main Eng Idle; APU On | 47.04 | 12.09 | 11.55 | 8.76 | 3.27 | 9.65 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.80 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 454.30 | 414.53 | 501.80 | 467.59 | 465.65 | 483.13 | 516.99 | 512.29 | 461.22 | 476.21 | 475.58 | 513.39 |
| | Gal Fuel Saved | 610.22 | 554.95 | 821.16 | 729.32 | 1,085.77 | 1,181.87 | 1,345.67 | 1,249.54 | 1,154.59 | 1,103.94 | 962.03 | 888.35 |
| | Tons $NO_X$ Reduced | 0.140 | 0.123 | 0.182 | 0.157 | 0.232 | 0.256 | 0.288 | 0.266 | 0.249 | 0.236 | 0.212 | 0.200 |
| MD Only | % Idle Management Effectiveness | 47.04% | 44.64% | 53.89% | 49.13% | 71.53% | 77.63% | 80.86% | 75.85% | 78.87% | 71.88% | 67.27% | 58.62% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 213.48 | 219.78 | 227.85 | 124.99 | 92.15 | 87.76 | 119.76 | 87.83 | 122.10 | 126.70 | 166.14 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 17.28 | 7.54 | 15.10 | 32.13 | 23.93 | 62.10 | 98.32 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 125.12 | 197.25 | 209.35 | 318.09 | 337.77 | 385.38 | 371.76 | 331.48 | 304.17 | 223.81 | 181.38 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 10.16 | 5.22 | 3.40 | 9.59 | 6.28 | 12.41 | 31.29 |
| | Total Hours | 452.63 | 407.46 | 501.71 | 465.15 | 450.53 | 457.36 | 485.90 | 510.02 | 461.03 | 456.48 | 425.02 | 477.13 |
| | Gal Fuel Saved | 606.47 | 547.36 | 821.16 | 725.78 | 1,042.47 | 1,143.55 | 1,269.15 | 1,246.33 | 1,154.39 | 1,048.37 | 885.48 | 821.89 |
| | Tons $NO_X$ Reduced | 0.139 | 0.121 | 0.182 | 0.156 | 0.223 | 0.247 | 0.270 | 0.266 | 0.249 | 0.225 | 0.195 | 0.186 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 47.04% | 44.41% | 53.88% | 49.11% | 71.96% | 78.62% | 81.39% | 75.71% | 78.85% | 72.53% | 65.62% | 58.96% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 218.34 | 219.86 | 229.19 | 126.54 | 83.67 | 90.04 | 121.03 | 87.96 | 124.48 | 150.05 | 176.54 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 41.58 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 104.89 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 127.34 | 197.25 | 210.45 | 328.90 | 301.33 | 395.15 | 372.76 | 331.54 | 321.47 | 244.79 | 194.44 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 9.55 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.79 |
| | Total Hours | 452.63 | 414.53 | 501.80 | 467.59 | 462.88 | 436.13 | 516.99 | 512.29 | 461.22 | 476.21 | 472.48 | 507.66 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 51.06% | 57.08% | 58.35% | 65.95% | 71.16% | 70.36% | 83.76% | 76.35% | 79.78% | 75.65% | 65.24% | 52.13% |
| | Idle 1 - Main Eng Idle; APU Off | 156.61 | 146.65 | 169.24 | 143.46 | 110.60 | 123.68 | 69.65 | 107.96 | 75.01 | 105.08 | 162.17 | 228.14 |
| | Idle 2 - Main Eng Off; APU On | 108.00 | 86.65 | 63.06 | 71.06 | 23.19 | 22.01 | 21.53 | 27.28 | 30.48 | 66.55 | 75.91 | 150.62 |
| | Idle 3 - Main Eng Off; APU Off | 112.27 | 152.57 | 189.04 | 216.32 | 258.68 | 280.54 | 357.23 | 329.94 | 297.26 | 298.87 | 246.34 | 138.96 |
| | Idle 4 - Main Eng Idle; APU On | 54.52 | 33.25 | 10.73 | 4.94 | 3.65 | 3.77 | 3.77 | 2.68 | 8.05 | 12.54 | 9.49 | 37.75 |
| | Main Eng Wkg; APU On | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Main Eng Wkg; APU Off | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total Hours | 431.39 | 419.12 | 432.08 | 435.78 | 396.12 | 430.00 | 452.17 | 467.85 | 410.80 | 483.03 | 493.92 | 555.47 |
| | Gal Fuel Saved | 530.43 | 614.90 | 684.07 | 785.37 | 803.04 | 864.03 | 1,086.46 | 1,020.47 | 928.68 | 1,010.67 | 880.57 | 714.69 |
| | Tons $NO_x$ Reduced | 0.146 | 0.161 | 0.173 | 0.198 | 0.197 | 0.212 | 0.265 | 0.250 | 0.229 | 0.253 | 0.222 | 0.193 |
| MD Only | % Idle Management Effectiveness | 53.09% | 54.99% | 65.38% | 64.09% | 76.94% | 73.45% | 85.79% | 77.44% | 78.29% | 80.92% | 68.63% | 48.64% |
| | Idle 1 - Main Eng Idle; APU Off | 58.70 | 102.45 | 99.46 | 90.26 | 55.62 | 71.02 | 32.41 | 70.69 | 44.79 | 54.91 | 127.06 | 192.34 |
| | Idle 2 - Main Eng Off; APU On | 68.91 | 66.13 | 57.66 | 47.18 | 17.75 | 19.45 | 16.19 | 28.53 | 20.31 | 33.71 | 62.29 | 113.42 |
| | Idle 3 - Main Eng Off; APU Off | 48.84 | 95.96 | 141.70 | 118.50 | 179.99 | 182.60 | 195.68 | 223.39 | 159.05 | 249.81 | 231.58 | 94.08 |
| | Idle 4 - Main Eng Idle; APU On | 45.34 | 30.20 | 6.12 | 2.56 | 3.64 | 2.00 | 2.67 | 2.71 | 4.94 | 11.94 | 7.26 | 26.78 |
| | Total Hours | 221.78 | 294.73 | 304.94 | 258.50 | 257.01 | 275.07 | 246.94 | 325.32 | 229.09 | 350.36 | 428.19 | 426.62 |
| | Gal Fuel Saved | 264.77 | 406.28 | 537.25 | 448.72 | 561.60 | 574.12 | 604.50 | 712.75 | 505.38 | 794.94 | 808.70 | 508.53 |
| | Tons $NO_x$ Reduced | 0.076 | 0.109 | 0.137 | 0.114 | 0.138 | 0.141 | 0.148 | 0.176 | 0.125 | 0.197 | 0.203 | 0.138 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 52.48% | 56.58% | 59.98% | 65.22% | 74.81% | 72.30% | 87.07% | 78.82% | 79.91% | 78.97% | 67.84% | 52.23% |
| | Idle 1 - Main Eng Idle; APU Off | 117.73 | 135.87 | 161.96 | 123.86 | 81.30 | 79.10 | 47.72 | 88.06 | 69.37 | 80.36 | 134.87 | 224.99 |
| | Idle 2 - Main Eng Off; APU On | 105.04 | 77.40 | 66.30 | 67.80 | 20.86 | 15.48 | 19.65 | 26.37 | 24.22 | 58.70 | 70.79 | 149.67 |
| | Idle 3 - Main Eng Off; APU Off | 85.20 | 138.73 | 190.00 | 171.99 | 230.68 | 196.49 | 321.77 | 310.79 | 281.30 | 286.51 | 230.94 | 136.53 |
| | Idle 4 - Main Eng Idle; APU On | 54.51 | 29.99 | 9.06 | 4.03 | 3.40 | 2.12 | 2.97 | 2.54 | 7.43 | 11.56 | 8.16 | 36.79 |
| | Total Hours | 362.47 | 382.00 | 427.32 | 367.68 | 336.23 | 293.19 | 392.10 | 427.76 | 382.33 | 437.12 | 444.76 | 547.99 |

| All Assignments | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 54 | 55 | 56 | 53 | 51 | 51 | 49 | 52 | 53 | 55 | 55 | 54 |
| | Idle 1 - Main Eng Idle; APU Off | 3,290.72 | 3,860.08 | 3,965.92 | 3,887.68 | 3,449.60 | 3,123.02 | 2,942.92 | 3,721.45 | 2,973.53 | 4,200.05 | 3,807.98 | 3,404.70 |
| | Idle 2 - Main Eng Off; APU On | 146.87 | 159.93 | 62.20 | 56.77 | 46.08 | 59.88 | 79.45 | 133.03 | 209.30 | 172.97 | 182.60 | 247.40 |
| | Idle 3 - Main Eng Off; APU Off | 290.93 | 347.13 | 461.95 | 722.53 | 1,257.00 | 1,449.02 | 1,576.38 | 1,422.63 | 1,338.70 | 1,283.55 | 629.07 | 358.03 |
| | Idle 4 - Main Eng Idle; APU On | 1,033.88 | 735.40 | 275.18 | 156.37 | 46.13 | 60.80 | 81.45 | 85.48 | 151.10 | 82.22 | 244.12 | 452.15 |
| | Main Eng Wkg; APU On | 1,424.92 | 1,006.07 | 482.33 | 246.22 | 132.95 | 101.37 | 90.63 | 119.02 | 303.57 | 196.67 | 359.23 | 739.22 |
| | Main Eng Wkg; APU Off | 4,400.38 | 4,888.10 | 5,977.10 | 5,655.07 | 5,060.48 | 5,388.73 | 4,556.07 | 5,584.78 | 4,918.12 | 6,063.50 | 5,767.92 | 5,173.22 |
| | Total Hours | 10,587.70 | 10,996.72 | 11,224.68 | 10,724.63 | 9,992.25 | 10,182.82 | 9,326.90 | 11,066.40 | 9,894.32 | 11,998.95 | 10,990.92 | 10,374.72 |
| | Gal Fuel Saved | 720.04 | 1,101.26 | 1,547.37 | 2,521.38 | 4,492.17 | 5,041.81 | 5,459.72 | 5,175.75 | 5,064.65 | 4,811.28 | 2,401.15 | 1,489.87 |
| | Tons $NO_X$ Reduced | 0.273 | 0.343 | 0.373 | 0.578 | 1.005 | 1.141 | 1.226 | 1.182 | 1.163 | 1.096 | 0.575 | 0.397 |
| MD Only | Total MD Locos | 43 | 47 | 45 | 46 | 44 | 40 | 45 | 48 | 53 | 53 | 54 | 52 |
| | Idle 1 - Main Eng Idle; APU Off | 1,753.15 | 1,906.25 | 2,038.97 | 2,008.02 | 1,653.83 | 1,517.55 | 1,548.18 | 2,387.25 | 1,931.57 | 2,643.47 | 2,937.50 | 2,463.95 |
| | Idle 2 - Main Eng Off; APU On | 85.65 | 43.23 | 26.68 | 24.37 | 15.45 | 26.52 | 31.03 | 72.33 | 105.08 | 85.33 | 111.60 | 156.52 |
| | Idle 3 - Main Eng Off; APU Off | 109.82 | 108.72 | 135.33 | 293.55 | 494.08 | 540.02 | 751.05 | 935.82 | 843.12 | 821.50 | 390.20 | 206.40 |
| | Idle 4 - Main Eng Idle; APU On | 627.07 | 290.25 | 101.98 | 78.68 | 35.67 | 33.90 | 66.50 | 31.03 | 97.13 | 59.10 | 146.35 | 327.53 |
| | Total Hours | 5,034.92 | 4,971.67 | 5,365.40 | 4,872.68 | 4,404.33 | 4,231.00 | 4,414.77 | 6,663.92 | 6,187.87 | 7,659.98 | 7,590.50 | 7,118.08 |
| | Gal Fuel Saved | 207.81 | 279.53 | 450.66 | 1,013.77 | 1,705.26 | 1,891.37 | 2,582.19 | 3,426.02 | 3,183.47 | 3,055.84 | 1,531.59 | 875.57 |
| | Tons $NO_X$ Reduced | 0.108 | 0.094 | 0.110 | 0.234 | 0.387 | 0.421 | 0.578 | 0.771 | 0.719 | 0.692 | 0.362 | 0.238 |
| | All % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 51 | 53 | 52 | 49 | 49 | 50 | 49 | 52 | 53 | 55 | 55 | 53 |
| | Idle 1 - Main Eng Idle; APU Off | 9,524.60 | 9,375.42 | 8,757.80 | 8,045.82 | 4,277.35 | 4,318.10 | 3,972.10 | 5,240.42 | 4,651.57 | 6,535.02 | 8,301.33 | 11,740.88 |
| | Idle 2 - Main Eng Off; APU On | 4,361.63 | 4,118.03 | 3,543.53 | 2,078.08 | 710.07 | 880.68 | 1,058.40 | 733.05 | 1,435.97 | 2,116.45 | 3,531.97 | 5,508.52 |
| | Idle 3 - Main Eng Off; APU Off | 4,512.62 | 5,431.95 | 7,514.82 | 8,045.62 | 12,932.13 | 13,836.92 | 16,994.57 | 17,680.60 | 16,970.43 | 16,719.83 | 12,141.95 | 6,334.27 |
| | Idle 4 - Main Eng Idle; APU On | 1,964.03 | 1,360.95 | 759.27 | 236.35 | 127.27 | 136.40 | 130.85 | 167.68 | 243.53 | 315.05 | 500.30 | 1,346.12 |
| | Total Hours | 20,362.88 | 20,286.35 | 20,575.42 | 18,405.87 | 18,046.82 | 19,172.10 | 22,155.92 | 23,821.75 | 23,301.50 | 25,686.35 | 24,475.55 | 24,929.78 |

| Power Unit | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 11 | 12 | 13 | 13 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 509.03 | 671.45 | 734.62 | 984.25 | 577.72 | 402.53 | 471.30 | 523.43 | 750.85 | 878.83 | 753.60 | 710.18 |
| | Idle 2 - Main Eng Off; APU On | 21.45 | 11.77 | 25.87 | 9.85 | 15.72 | 10.95 | 16.47 | 16.28 | 36.77 | 46.47 | 28.17 | 51.42 |
| | Idle 3 - Main Eng Off; APU Off | 55.68 | 13.67 | 63.45 | 126.17 | 232.70 | 316.27 | 245.23 | 361.27 | 292.68 | 269.32 | 107.13 | 94.70 |
| | Idle 4 - Main Eng Idle; APU On | 220.82 | 166.68 | 91.75 | 7.32 | 10.92 | 2.55 | 5.28 | 63.82 | 7.17 | 9.22 | 89.15 | 30.20 |
| | Main Eng Wkg; APU On | 368.53 | 228.28 | 232.47 | 17.73 | 20.07 | 6.50 | 12.07 | 84.02 | 36.25 | 21.73 | 129.52 | 88.87 |
| | Main Eng Wkg; APU Off | 835.00 | 1,038.27 | 1,439.77 | 1,441.27 | 1,051.13 | 1,163.57 | 1,016.38 | 1,018.60 | 1,219.18 | 1,352.22 | 1,195.02 | 1,156.20 |
| | Total Hours | 2,010.52 | 2,130.12 | 2,587.92 | 2,586.58 | 1,908.25 | 1,902.37 | 1,766.73 | 2,067.42 | 2,342.90 | 2,577.78 | 2,302.58 | 2,131.57 |
| | Gal Fuel Saved | 104.06 | -38.58 | 223.74 | 464.14 | 876.44 | 1,113.99 | 860.67 | 1,229.49 | 1,077.57 | 1,025.21 | 379.97 | 418.04 |
| | Tons $NO_X$ Reduced | 0.050 | 0.009 | 0.064 | 0.111 | 0.212 | 0.263 | 0.203 | 0.296 | 0.256 | 0.245 | 0.101 | 0.105 |
| MD Only | Total MD Locos | 9 | 11 | 13 | 10 | 10 | 10 | 8 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 126.72 | 208.63 | 345.22 | 429.58 | 133.67 | 166.20 | 233.80 | 266.70 | 416.02 | 432.22 | 469.75 | 281.83 |
| | Idle 2 - Main Eng Off; APU On | 9.82 | 4.65 | 7.90 | 6.32 | 4.38 | 4.83 | 15.00 | 8.25 | 15.28 | 10.70 | 14.03 | 15.82 |
| | Idle 3 - Main Eng Off; APU Off | 5.92 | 6.03 | 19.12 | 47.97 | 64.92 | 68.53 | 71.52 | 188.42 | 105.03 | 157.82 | 65.45 | 54.83 |
| | Idle 4 - Main Eng Idle; APU On | 75.37 | 26.78 | 30.37 | 3.83 | 9.58 | 1.37 | 3.27 | 20.80 | 3.30 | 5.93 | 19.50 | 9.38 |
| | Total Hours | 560.53 | 717.77 | 1,106.28 | 1,109.67 | 503.92 | 746.08 | 706.70 | 1,005.93 | 1,101.82 | 1,301.00 | 1,255.10 | 927.18 |
| | Gal Fuel Saved | -8.52 | 14.17 | 62.84 | 187.72 | 233.45 | 233.59 | 279.59 | 660.89 | 394.71 | 577.98 | 247.37 | 222.07 |
| | Tons $NO_X$ Reduced | 0.006 | 0.006 | 0.018 | 0.046 | 0.057 | 0.054 | 0.067 | 0.159 | 0.094 | 0.138 | 0.061 | 0.055 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 13 | 11 | 11 | 11 | 11 | 12 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 2,345.10 | 2,575.62 | 2,538.42 | 2,351.15 | 1,013.83 | 1,187.92 | 1,036.15 | 1,158.40 | 1,178.38 | 1,620.83 | 2,198.17 | 3,328.33 |
| | Idle 2 - Main Eng Off; APU On | 845.80 | 1,098.07 | 807.90 | 618.37 | 223.62 | 237.40 | 386.15 | 120.83 | 336.25 | 459.43 | 841.05 | 899.23 |
| | Idle 3 - Main Eng Off; APU Off | 301.13 | 529.13 | 930.57 | 1,365.32 | 2,337.12 | 3,446.92 | 3,563.67 | 3,703.33 | 3,507.90 | 3,334.22 | 2,498.68 | 806.25 |
| | Idle 4 - Main Eng Idle; APU On | 465.65 | 464.37 | 305.85 | 32.20 | 23.88 | 19.88 | 31.62 | 78.55 | 44.02 | 62.50 | 173.78 | 209.08 |
| | Total Hours | 3,957.68 | 4,667.18 | 4,582.73 | 4,367.03 | 3,598.45 | 4,892.12 | 5,017.58 | 5,061.12 | 5,066.55 | 5,476.98 | 5,711.68 | 5,242.90 |

| Other | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 24 | 24 | 24 | 22 | 21 | 22 | 21 | 23 | 24 | 24 | 24 | 23 |
| | Idle 1 - Main Eng Idle; APU Off | 1,655.92 | 1,734.02 | 1,743.55 | 1,501.17 | 1,510.20 | 1,681.38 | 1,524.65 | 1,797.48 | 1,320.68 | 1,826.17 | 1,614.58 | 1,521.35 |
| | Idle 2 - Main Eng Off; APU On | 78.08 | 98.88 | 23.28 | 24.17 | 14.12 | 35.72 | 28.50 | 36.85 | 33.28 | 68.05 | 59.50 | 105.08 |
| | Idle 3 - Main Eng Off; APU Off | 156.00 | 151.00 | 298.70 | 328.70 | 646.25 | 622.70 | 703.52 | 600.95 | 666.67 | 548.65 | 235.53 | 111.07 |
| | Idle 4 - Main Eng Idle; APU On | 314.75 | 313.73 | 113.45 | 104.42 | 10.23 | 5.78 | 12.30 | 15.58 | 13.28 | 29.35 | 42.73 | 198.12 |
| | Main Eng Wkg; APU On | 392.65 | 437.87 | 141.70 | 163.02 | 35.82 | 11.00 | 13.12 | 15.00 | 26.05 | 52.50 | 91.20 | 245.23 |
| | Main Eng Wkg; APU Off | 1,808.57 | 2,046.07 | 2,263.23 | 1,923.93 | 1,990.17 | 2,107.73 | 1,796.08 | 2,584.30 | 1,979.72 | 2,843.47 | 2,628.90 | 2,521.63 |
| | Total Hours | 4,405.97 | 4,781.57 | 4,583.92 | 4,045.40 | 4,206.78 | 4,464.32 | 4,078.17 | 5,050.17 | 4,039.68 | 5,368.18 | 4,672.45 | 4,702.48 |
| | Gal Fuel Saved | 613.03 | 666.74 | 1,040.19 | 1,229.20 | 2,445.67 | 2,391.77 | 2,645.53 | 2,363.73 | 2,587.55 | 2,271.18 | 1,012.30 | 553.21 |
| | Tons $NO_X$ Reduced | 0.167 | 0.189 | 0.235 | 0.267 | 0.518 | 0.512 | 0.565 | 0.513 | 0.558 | 0.489 | 0.221 | 0.142 |
| MD Only | Total MD Locos | 17 | 19 | 15 | 19 | 17 | 17 | 20 | 22 | 24 | 24 | 24 | 21 |
| | Idle 1 - Main Eng Idle; APU Off | 905.03 | 591.38 | 459.77 | 498.72 | 632.05 | 725.08 | 690.77 | 1,039.23 | 869.48 | 1,166.13 | 1,308.00 | 1,203.53 |
| | Idle 2 - Main Eng Off; APU On | 43.15 | 14.77 | 8.83 | 7.03 | 1.52 | 16.88 | 6.77 | 18.95 | 11.77 | 44.28 | 35.37 | 72.63 |
| | Idle 3 - Main Eng Off; APU Off | 77.33 | 41.45 | 52.62 | 104.42 | 202.55 | 255.05 | 309.83 | 426.80 | 521.30 | 347.55 | 188.77 | 71.88 |
| | Idle 4 - Main Eng Idle; APU On | 138.00 | 81.63 | 11.70 | 38.55 | 3.33 | 0.78 | 5.95 | 4.88 | 7.62 | 18.18 | 23.10 | 131.27 |
| | Total Hours | 2,048.93 | 1,500.15 | 1,311.22 | 1,253.38 | 1,604.08 | 1,769.52 | 1,792.62 | 2,958.90 | 2,820.18 | 3,535.18 | 3,675.37 | 3,534.30 |
| | Gal Fuel Saved | 341.63 | 152.57 | 209.88 | 387.09 | 764.77 | 986.94 | 1,164.73 | 1,668.86 | 1,970.18 | 1,457.25 | 797.37 | 374.11 |
| | Tons $NO_X$ Reduced | 0.087 | 0.040 | 0.045 | 0.085 | 0.165 | 0.212 | 0.249 | 0.359 | 0.427 | 0.314 | 0.173 | 0.096 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 22 | 22 | 21 | 20 | 19 | 21 | 21 | 23 | 24 | 24 | 24 | 22 |
| | Idle 1 - Main Eng Idle; APU Off | 4,533.30 | 3,641.02 | 2,898.73 | 2,727.95 | 1,402.18 | 1,674.42 | 1,828.55 | 2,354.18 | 2,094.45 | 3,078.58 | 3,434.40 | 4,476.87 |
| | Idle 2 - Main Eng Off; APU On | 1,792.10 | 1,693.73 | 1,494.33 | 579.52 | 206.92 | 181.90 | 296.30 | 242.75 | 608.32 | 785.12 | 1,384.73 | 2,079.00 |
| | Idle 3 - Main Eng Off; APU Off | 2,352.22 | 2,346.73 | 3,113.57 | 3,315.27 | 5,524.57 | 6,119.35 | 7,447.15 | 8,260.08 | 8,047.42 | 7,697.20 | 5,158.43 | 2,528.53 |
| | Idle 4 - Main Eng Idle; APU On | 571.95 | 452.05 | 272.90 | 98.52 | 39.70 | 26.32 | 26.40 | 39.98 | 50.62 | 69.55 | 141.77 | 472.95 |
| | Total Hours | 9,249.57 | 8,133.53 | 7,779.53 | 6,721.25 | 7,173.37 | 8,001.98 | 9,598.40 | 10,897.00 | 10,800.80 | 11,630.45 | 10,119.33 | 9,557.35 |

| RCL | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 514.90 | 727.20 | 707.33 | 759.93 | 651.70 | 423.58 | 509.35 | 651.63 | 432.12 | 749.70 | 587.78 | 488.72 |
| | Idle 2 - Main Eng Off; APU On | 11.93 | 2.45 | 2.15 | 6.58 | 0.92 | 3.03 | 25.70 | 3.42 | 44.90 | 10.50 | 38.57 | 47.87 |
| | Idle 3 - Main Eng Off; APU Off | 13.05 | 16.45 | 34.08 | 73.23 | 125.05 | 139.68 | 228.63 | 182.87 | 145.63 | 138.97 | 88.60 | 30.80 |
| | Idle 4 - Main Eng Idle; APU On | 218.78 | 44.90 | 43.92 | 32.12 | 2.75 | 35.77 | 58.77 | 1.78 | 62.62 | 5.22 | 86.47 | 101.17 |
| | Main Eng Wkg; APU On | 211.15 | 43.30 | 54.73 | 36.77 | 7.03 | 36.12 | 49.02 | 5.83 | 67.18 | 13.53 | 47.95 | 114.63 |
| | Main Eng Wkg; APU Off | 554.05 | 744.15 | 805.18 | 762.22 | 801.00 | 587.92 | 628.27 | 752.42 | 603.02 | 932.62 | 693.57 | 639.07 |
| | Total Hours | 1,523.87 | 1,578.45 | 1,647.40 | 1,670.85 | 1,588.45 | 1,226.10 | 1,499.73 | 1,597.95 | 1,355.47 | 1,850.53 | 1,542.93 | 1,422.25 |
| | Gal Fuel Saved | -77.10 | 29.03 | 85.51 | 233.97 | 413.83 | 445.46 | 774.65 | 606.19 | 554.84 | 482.55 | 324.51 | 152.89 |
| | Tons $NO_X$ Reduced | 0.003 | 0.010 | 0.022 | 0.053 | 0.088 | 0.099 | 0.171 | 0.129 | 0.127 | 0.103 | 0.078 | 0.045 |
| MD Only | Total MD Locos | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 514.90 | 716.47 | 699.33 | 743.12 | 607.60 | 385.87 | 482.37 | 641.95 | 431.02 | 736.62 | 514.30 | 465.12 |
| | Idle 2 - Main Eng Off; APU On | 11.93 | 2.45 | 2.15 | 6.58 | 0.92 | 2.78 | 4.43 | 3.42 | 44.68 | 10.40 | 35.97 | 42.48 |
| | Idle 3 - Main Eng Off; APU Off | 12.55 | 15.20 | 34.08 | 73.23 | 97.38 | 123.30 | 208.95 | 176.80 | 141.67 | 132.18 | 36.02 | 28.98 |
| | Idle 4 - Main Eng Idle; APU On | 218.78 | 44.90 | 43.92 | 32.12 | 2.75 | 29.02 | 55.25 | 1.78 | 62.62 | 4.92 | 86.47 | 97.17 |
| | Total Hours | 1,523.37 | 1,553.78 | 1,620.85 | 1,618.58 | 1,434.60 | 1,073.23 | 1,393.68 | 1,568.30 | 1,345.52 | 1,797.30 | 1,350.43 | 1,326.98 |
| | Gal Fuel Saved | -78.67 | 24.96 | 85.51 | 233.97 | 324.90 | 396.80 | 660.03 | 586.69 | 541.55 | 460.70 | 148.92 | 136.18 |
| | Tons $NO_X$ Reduced | 0.003 | 0.009 | 0.022 | 0.053 | 0.070 | 0.088 | 0.146 | 0.125 | 0.124 | 0.099 | 0.042 | 0.040 |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Idle 1 - Main Eng Idle; APU Off | 1,351.18 | 1,528.35 | 1,539.05 | 1,604.30 | 885.75 | 585.70 | 630.25 | 847.23 | 615.70 | 871.33 | 1,050.37 | 1,235.78 |
| | Idle 2 - Main Eng Off; APU On | 568.32 | 397.38 | 511.97 | 134.35 | 29.25 | 291.08 | 179.48 | 105.73 | 224.93 | 167.50 | 456.65 | 734.23 |
| | Idle 3 - Main Eng Off; APU Off | 922.07 | 891.35 | 1,380.72 | 1,473.18 | 2,302.28 | 2,109.28 | 2,766.05 | 2,609.32 | 2,320.77 | 2,250.32 | 1,713.52 | 1,361.08 |
| | Idle 4 - Main Eng Idle; APU On | 326.87 | 84.60 | 80.87 | 61.32 | 22.90 | 66.87 | 43.17 | 23.77 | 67.13 | 44.32 | 86.85 | 222.55 |
| | Total Hours | 3,168.43 | 2,901.68 | 3,512.60 | 3,273.15 | 3,240.18 | 3,052.93 | 3,618.95 | 3,586.05 | 3,228.53 | 3,333.47 | 3,307.38 | 3,553.65 |

| SD50 | Overall Statistic | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | Total Locos | 12 | 12 | 12 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 610.87 | 727.42 | 780.42 | 642.33 | 709.98 | 615.52 | 437.62 | 748.90 | 469.88 | 745.35 | 852.02 | 684.45 |
| | Idle 2 - Main Eng Off; APU On | 35.40 | 46.83 | 10.90 | 16.17 | 15.33 | 10.18 | 8.78 | 76.48 | 94.35 | 47.95 | 56.37 | 43.03 |
| | Idle 3 - Main Eng Off; APU Off | 66.20 | 166.02 | 65.72 | 194.43 | 253.00 | 370.37 | 399.00 | 277.55 | 233.72 | 326.62 | 197.80 | 121.47 |
| | Idle 4 - Main Eng Idle; APU On | 279.53 | 210.08 | 26.07 | 12.52 | 22.23 | 16.70 | 5.10 | 4.30 | 68.03 | 38.43 | 25.77 | 122.67 |
| | Main Eng Wkg; APU On | 452.58 | 296.62 | 53.43 | 28.70 | 70.03 | 47.75 | 16.43 | 14.17 | 174.08 | 108.90 | 90.57 | 290.48 |
| | Main Eng Wkg; APU Off | 1,202.77 | 1,059.62 | 1,468.92 | 1,527.65 | 1,218.18 | 1,529.52 | 1,115.33 | 1,229.47 | 1,116.20 | 935.20 | 1,250.43 | 856.32 |
| | Total Hours | 2,647.35 | 2,506.58 | 2,405.45 | 2,421.80 | 2,288.77 | 2,590.03 | 1,982.27 | 2,350.87 | 2,156.27 | 2,202.45 | 2,472.95 | 2,118.42 |
| | Gal Fuel Saved | 80.05 | 444.06 | 197.92 | 594.07 | 756.23 | 1,090.59 | 1,178.87 | 976.34 | 844.69 | 1,032.34 | 684.37 | 365.73 |
| | Tons $NO_X$ Reduced | 0.053 | 0.135 | 0.052 | 0.147 | 0.187 | 0.266 | 0.286 | 0.245 | 0.222 | 0.259 | 0.174 | 0.106 |
| MD Only | Total MD Locos | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 | 11 | 10 | 11 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 206.50 | 389.77 | 534.65 | 336.60 | 280.52 | 240.40 | 141.25 | 439.37 | 215.05 | 308.50 | 645.45 | 513.47 |
| | Idle 2 - Main Eng Off; APU On | 20.75 | 21.37 | 7.80 | 4.43 | 8.63 | 2.02 | 4.83 | 41.72 | 33.35 | 19.95 | 26.23 | 25.58 |
| | Idle 3 - Main Eng Off; APU Off | 14.02 | 46.03 | 29.52 | 67.93 | 129.23 | 93.13 | 160.75 | 143.80 | 75.12 | 183.95 | 99.97 | 50.70 |
| | Idle 4 - Main Eng Idle; APU On | 194.92 | 136.93 | 16.00 | 4.18 | 20.00 | 2.73 | 2.03 | 3.57 | 23.60 | 30.07 | 17.28 | 89.72 |
| | Total Hours | 902.08 | 1,199.97 | 1,327.05 | 891.05 | 861.73 | 642.17 | 521.77 | 1,130.78 | 920.35 | 1,026.50 | 1,309.60 | 1,329.62 |
| | Gal Fuel Saved | -46.63 | 87.83 | 92.42 | 204.99 | 382.14 | 274.04 | 477.85 | 509.58 | 277.04 | 559.91 | 337.93 | 143.22 |
| | Tons $NO_X$ Reduced | 0.012 | 0.038 | 0.025 | 0.050 | 0.095 | 0.067 | 0.116 | 0.128 | 0.073 | 0.141 | 0.086 | 0.047 |
| | SD50 % time in MD | 39.88% | 55.03% | 57.66% | 48.18% | 48.73% | 35.08% | 45.99% | 57.74% | 51.54% | 56.63% | 71.66% | 73.42% |
| MD & Surrounding | Total MD & Surrounding ST Locos | 11 | 12 | 11 | 11 | 12 | 11 | 10 | 10 | 11 | 12 | 12 | 12 |
| | Idle 1 - Main Eng Idle; APU Off | 1,295.02 | 1,630.43 | 1,781.60 | 1,362.42 | 975.58 | 870.07 | 477.15 | 880.60 | 763.03 | 964.27 | 1,618.40 | 2,699.90 |
| | Idle 2 - Main Eng Off; APU On | 1,155.42 | 928.85 | 729.33 | 745.85 | 250.28 | 170.30 | 196.47 | 263.73 | 266.47 | 704.40 | 849.53 | 1,796.05 |
| | Idle 3 - Main Eng Off; APU Off | 937.20 | 1,664.73 | 2,089.97 | 1,891.85 | 2,768.17 | 2,161.37 | 3,217.70 | 3,107.87 | 3,094.35 | 3,438.10 | 2,771.32 | 1,638.40 |
| | Idle 4 - Main Eng Idle; APU On | 599.57 | 359.93 | 99.65 | 44.32 | 40.78 | 23.33 | 29.67 | 25.38 | 81.77 | 138.68 | 97.90 | 441.53 |
| | Total Hours | 3,987.20 | 4,583.95 | 4,700.55 | 4,044.43 | 4,034.82 | 3,225.07 | 3,920.98 | 4,277.58 | 4,205.62 | 5,245.45 | 5,337.15 | 6,575.88 |

| All Assignments | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 9.19% | 9.94% | 11.00% | 16.16% | 27.15% | 32.15% | 35.38% | 29.01% | 33.13% | 25.38% | 16.69% | 13.57% |
| | Idle 1 - Main Eng Idle; APU Off | 60.94 | 70.18 | 70.82 | 73.35 | 67.64 | 61.24 | 60.06 | 71.57 | 56.10 | 76.36 | 69.24 | 63.05 |
| | Idle 2 - Main Eng Off; APU On | 2.72 | 2.91 | 1.11 | 1.07 | 0.90 | 1.17 | 1.62 | 2.56 | 3.95 | 3.14 | 3.32 | 4.58 |
| | Idle 3 - Main Eng Off; APU Off | 5.39 | 6.31 | 8.25 | 13.63 | 24.65 | 28.41 | 32.17 | 27.36 | 25.26 | 23.34 | 11.44 | 6.63 |
| | Idle 4 - Main Eng Idle; APU On | 19.15 | 13.37 | 4.91 | 2.95 | 0.90 | 1.19 | 1.66 | 1.64 | 2.85 | 1.49 | 4.44 | 8.37 |
| | Main Eng Wkg; APU On | 26.39 | 18.29 | 8.61 | 4.65 | 2.61 | 1.99 | 1.85 | 2.29 | 5.73 | 3.58 | 6.53 | 13.69 |
| | Main Eng Wkg; APU Off | 81.49 | 88.87 | 106.73 | 106.70 | 99.23 | 105.66 | 92.98 | 107.40 | 92.79 | 110.25 | 104.87 | 95.80 |
| | Total Hours | 196.07 | 199.94 | 200.44 | 202.35 | 195.93 | 199.66 | 190.34 | 212.82 | 186.69 | 218.16 | 199.83 | 192.12 |
| | Gal Fuel Saved | 13.33 | 20.02 | 27.63 | 47.57 | 88.08 | 98.86 | 111.42 | 99.53 | 95.56 | 87.48 | 43.66 | 27.59 |
| | Tons $NO_x$ Reduced | 0.005 | 0.006 | 0.007 | 0.011 | 0.020 | 0.022 | 0.025 | 0.023 | 0.022 | 0.020 | 0.010 | 0.007 |
| MD Only | % Idle Management Effectiveness | 7.59% | 6.47% | 7.04% | 13.22% | 23.17% | 26.75% | 32.63% | 29.42% | 31.85% | 25.12% | 13.99% | 11.51% |
| | Idle 1 - Main Eng Idle; APU Off | 40.77 | 40.56 | 45.31 | 43.65 | 37.59 | 37.94 | 34.40 | 49.73 | 36.44 | 49.88 | 54.40 | 47.38 |
| | Idle 2 - Main Eng Off; APU On | 1.99 | 0.92 | 0.59 | 0.53 | 0.35 | 0.66 | 0.69 | 1.51 | 1.98 | 1.61 | 2.07 | 3.01 |
| | Idle 3 - Main Eng Off; APU Off | 2.55 | 2.31 | 3.01 | 6.38 | 11.23 | 13.50 | 16.69 | 19.50 | 15.91 | 15.50 | 7.23 | 3.97 |
| | Idle 4 - Main Eng Idle; APU On | 14.58 | 6.18 | 2.27 | 1.71 | 0.81 | 0.85 | 1.48 | 0.65 | 1.83 | 1.12 | 2.71 | 6.30 |
| | Total Hours | 117.09 | 105.78 | 119.23 | 105.93 | 100.10 | 105.78 | 98.11 | 138.83 | 116.75 | 144.53 | 140.56 | 136.89 |
| | Gal Fuel Saved | 4.83 | 5.95 | 10.01 | 22.04 | 38.76 | 47.28 | 57.38 | 71.38 | 60.07 | 57.66 | 28.36 | 16.84 |
| | Tons $NO_x$ Reduced | 0.003 | 0.002 | 0.002 | 0.005 | 0.009 | 0.011 | 0.013 | 0.016 | 0.014 | 0.013 | 0.007 | 0.005 |
| | Overall % time in MD | 51.22% | 47.65% | 48.82% | 48.41% | 47.59% | 46.08% | 52.20% | 63.88% | 67.67% | 63.89% | 74.12% | 72.08% |
| MD & Surrounding | % Idle Management Effectiveness | 43.58% | 47.08% | 53.75% | 55.00% | 75.59% | 76.77% | 81.48% | 77.30% | 78.99% | 73.33% | 64.04% | 47.50% |
| | Idle 1 - Main Eng Idle; APU Off | 186.76 | 176.89 | 168.42 | 164.20 | 87.29 | 86.36 | 81.06 | 100.78 | 87.77 | 118.82 | 150.93 | 221.53 |
| | Idle 2 - Main Eng Off; APU On | 85.52 | 77.70 | 68.14 | 42.41 | 14.49 | 17.61 | 21.60 | 14.10 | 27.09 | 38.48 | 64.22 | 103.93 |
| | Idle 3 - Main Eng Off; APU Off | 88.48 | 102.49 | 144.52 | 164.20 | 263.92 | 276.74 | 346.83 | 340.01 | 320.20 | 304.00 | 220.76 | 119.51 |
| | Idle 4 - Main Eng Idle; APU On | 38.51 | 25.68 | 14.60 | 4.82 | 2.60 | 2.73 | 2.67 | 3.22 | 4.59 | 5.73 | 9.10 | 25.40 |
| | Total Hours | 399.27 | 382.76 | 395.68 | 375.63 | 368.30 | 383.44 | 452.16 | 458.11 | 439.65 | 467.02 | 445.01 | 470.37 |

| Power Unit | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 9.56% | 2.95% | 9.75% | 12.06% | 29.68% | 44.68% | 35.45% | 39.13% | 30.30% | 26.23% | 13.83% | 16.48% |
| | Idle 1 - Main Eng Idle; APU Off | 46.28 | 55.95 | 56.51 | 75.71 | 52.52 | 36.59 | 42.85 | 43.62 | 68.26 | 73.24 | 62.80 | 59.18 |
| | Idle 2 - Main Eng Off; APU On | 1.95 | 0.98 | 1.99 | 0.76 | 1.43 | 1.00 | 1.50 | 1.36 | 3.34 | 3.87 | 2.35 | 4.28 |
| | Idle 3 - Main Eng Off; APU Off | 5.06 | 1.14 | 4.88 | 9.71 | 21.15 | 28.75 | 22.29 | 30.11 | 26.61 | 22.44 | 8.93 | 7.89 |
| | Idle 4 - Main Eng Idle; APU On | 20.07 | 13.89 | 7.06 | 0.56 | 0.99 | 0.23 | 0.48 | 5.32 | 0.65 | 0.77 | 7.43 | 2.52 |
| | Main Eng Wkg; APU On | 33.50 | 19.02 | 17.88 | 1.36 | 1.82 | 0.59 | 1.10 | 7.00 | 3.30 | 1.81 | 10.79 | 7.41 |
| | Main Eng Wkg; APU Off | 75.91 | 86.52 | 110.75 | 110.87 | 95.56 | 105.78 | 92.40 | 84.88 | 110.83 | 112.68 | 99.58 | 96.35 |
| | Total Hours | 182.77 | 177.51 | 199.07 | 198.97 | 173.48 | 172.94 | 160.61 | 172.28 | 212.99 | 214.82 | 191.88 | 177.63 |
| | Gal Fuel Saved | 9.46 | -3.21 | 17.21 | 35.70 | 79.68 | 101.27 | 78.24 | 102.46 | 97.96 | 85.43 | 31.66 | 34.84 |
| | Tons $NO_x$ Reduced | 0.005 | 0.001 | 0.005 | 0.009 | 0.019 | 0.024 | 0.018 | 0.025 | 0.023 | 0.020 | 0.008 | 0.009 |
| MD Only | % Idle Management Effectiveness | 7.22% | 4.34% | 6.71% | 11.13% | 32.60% | 30.45% | 26.74% | 40.62% | 22.30% | 27.78% | 13.98% | 19.52% |
| | Idle 1 - Main Eng Idle; APU Off | 14.08 | 18.97 | 26.56 | 42.96 | 13.37 | 16.62 | 29.23 | 26.67 | 37.82 | 36.02 | 39.15 | 23.49 |
| | Idle 2 - Main Eng Off; APU On | 1.09 | 0.42 | 0.61 | 0.63 | 0.44 | 0.48 | 1.88 | 0.83 | 1.39 | 0.89 | 1.17 | 1.32 |
| | Idle 3 - Main Eng Off; APU Off | 0.66 | 0.55 | 1.47 | 4.80 | 6.49 | 6.85 | 8.94 | 18.84 | 9.55 | 13.15 | 5.45 | 4.57 |
| | Idle 4 - Main Eng Idle; APU On | 8.37 | 2.43 | 2.34 | 0.38 | 0.96 | 0.14 | 0.41 | 2.08 | 0.30 | 0.49 | 1.63 | 0.78 |
| | Total Hours | 62.28 | 65.25 | 85.10 | 110.97 | 50.39 | 74.61 | 88.34 | 100.59 | 100.17 | 108.42 | 104.59 | 77.27 |
| | Gal Fuel Saved | -0.95 | 1.29 | 4.83 | 18.77 | 23.34 | 23.36 | 34.95 | 66.09 | 35.88 | 48.16 | 20.61 | 18.51 |
| | Tons $NO_x$ Reduced | 0.001 | 0.001 | 0.001 | 0.005 | 0.006 | 0.005 | 0.008 | 0.016 | 0.009 | 0.012 | 0.005 | 0.005 |
| | Power Unit % time in MD | 34.34% | 39.28% | 46.76% | 45.13% | 30.09% | 35.23% | 36.71% | 49.86% | 51.74% | 54.18% | 59.87% | 55.08% |
| MD & Surrounding | % Idle Management Effectiveness | 28.98% | 34.86% | 37.94% | 45.42% | 71.16% | 75.31% | 78.72% | 75.56% | 75.87% | 69.27% | 58.47% | 32.53% |
| | Idle 1 - Main Eng Idle; APU Off | 213.19 | 214.63 | 195.26 | 213.74 | 92.17 | 107.99 | 94.20 | 96.53 | 107.13 | 135.07 | 183.18 | 277.36 |
| | Idle 2 - Main Eng Off; APU On | 76.89 | 91.51 | 62.15 | 56.22 | 20.33 | 21.58 | 35.10 | 10.07 | 30.57 | 38.29 | 70.09 | 74.94 |
| | Idle 3 - Main Eng Off; APU Off | 27.38 | 44.09 | 71.58 | 124.12 | 212.47 | 313.36 | 323.97 | 308.61 | 318.90 | 277.85 | 208.22 | 67.19 |
| | Idle 4 - Main Eng Idle; APU On | 42.33 | 38.70 | 23.53 | 2.93 | 2.17 | 1.81 | 2.87 | 6.55 | 4.00 | 5.21 | 14.48 | 17.42 |
| | Total Hours | 359.79 | 388.93 | 352.52 | 397.00 | 327.13 | 444.74 | 456.14 | 421.76 | 460.60 | 456.42 | 475.97 | 436.91 |

| Other | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 10.62% | 10.88% | 14.78% | 18.02% | 30.28% | 28.07% | 32.26% | 26.02% | 34.41% | 24.95% | 15.11% | 11.17% |
| | Idle 1 - Main Eng Idle; APU Off | 69.00 | 72.25 | 72.65 | 68.23 | 71.91 | 76.43 | 72.60 | 78.15 | 55.03 | 76.09 | 67.27 | 66.15 |
| | Idle 2 - Main Eng Off; APU On | 3.25 | 4.12 | 0.97 | 1.10 | 0.67 | 1.62 | 1.36 | 1.60 | 1.39 | 2.84 | 2.48 | 4.57 |
| | Idle 3 - Main Eng Off; APU Off | 6.50 | 6.29 | 12.45 | 14.94 | 30.77 | 28.30 | 33.50 | 26.13 | 27.78 | 22.86 | 9.81 | 4.83 |
| | Idle 4 - Main Eng Idle; APU On | 13.11 | 13.07 | 4.73 | 4.75 | 0.49 | 0.26 | 0.59 | 0.68 | 0.55 | 1.22 | 1.78 | 8.61 |
| | Main Eng Wkg; APU On | 16.36 | 18.24 | 5.90 | 7.41 | 1.71 | 0.50 | 0.62 | 0.65 | 1.09 | 2.19 | 3.80 | 10.66 |
| | Main Eng Wkg; APU Off | 75.36 | 85.25 | 94.30 | 87.45 | 94.77 | 95.81 | 85.53 | 112.36 | 82.49 | 118.48 | 109.54 | 109.64 |
| | Total Hours | 183.58 | 199.23 | 191.00 | 183.88 | 200.32 | 202.92 | 194.20 | 219.57 | 168.32 | 223.67 | 194.69 | 204.46 |
| | Gal Fuel Saved | 25.54 | 27.78 | 43.34 | 55.87 | 116.46 | 108.72 | 125.98 | 102.77 | 107.81 | 94.63 | 42.18 | 24.05 |
| | Tons $NO_x$ Reduced | 0.007 | 0.008 | 0.010 | 0.012 | 0.025 | 0.023 | 0.027 | 0.022 | 0.023 | 0.020 | 0.009 | 0.006 |
| MD Only | % Idle Management Effectiveness | 10.36% | 7.71% | 11.53% | 17.18% | 24.31% | 27.25% | 31.24% | 29.92% | 37.80% | 24.86% | 14.41% | 9.77% |
| | Idle 1 - Main Eng Idle; APU Off | 53.24 | 31.13 | 30.65 | 26.25 | 37.18 | 42.65 | 34.54 | 47.24 | 36.23 | 48.59 | 54.50 | 57.31 |
| | Idle 2 - Main Eng Off; APU On | 2.54 | 0.78 | 0.59 | 0.37 | 0.09 | 0.99 | 0.34 | 0.86 | 0.49 | 1.85 | 1.47 | 3.46 |
| | Idle 3 - Main Eng Off; APU Off | 4.55 | 2.18 | 3.51 | 5.50 | 11.91 | 15.00 | 15.49 | 19.40 | 21.72 | 14.48 | 7.87 | 3.42 |
| | Idle 4 - Main Eng Idle; APU On | 8.12 | 4.30 | 0.78 | 2.03 | 0.20 | 0.05 | 0.30 | 0.22 | 0.32 | 0.76 | 0.96 | 6.25 |
| | Total Hours | 120.53 | 78.96 | 87.41 | 65.97 | 94.36 | 104.09 | 89.63 | 134.50 | 117.51 | 147.30 | 153.14 | 168.30 |
| | Gal Fuel Saved | 20.10 | 8.03 | 13.99 | 20.37 | 44.99 | 58.06 | 58.24 | 75.86 | 82.09 | 60.72 | 33.22 | 17.81 |
| | Tons $NO_x$ Reduced | 0.005 | 0.002 | 0.003 | 0.004 | 0.010 | 0.012 | 0.012 | 0.016 | 0.018 | 0.013 | 0.007 | 0.005 |
| | Other % time in MD | 49.00% | 32.37% | 27.45% | 31.23% | 38.64% | 45.00% | 47.83% | 61.68% | 73.16% | 62.08% | 78.31% | 72.87% |
| MD & Surrounding | % Idle Management Effectiveness | 44.81% | 49.68% | 59.23% | 57.95% | 79.90% | 78.75% | 80.67% | 78.03% | 80.14% | 72.93% | 64.66% | 48.21% |
| | Idle 1 - Main Eng Idle; APU Off | 206.06 | 165.50 | 138.03 | 136.40 | 73.80 | 79.73 | 87.07 | 102.36 | 87.27 | 128.27 | 143.10 | 203.49 |
| | Idle 2 - Main Eng Off; APU On | 81.46 | 76.99 | 71.16 | 28.98 | 10.89 | 8.66 | 14.11 | 10.55 | 25.35 | 32.71 | 57.70 | 94.50 |
| | Idle 3 - Main Eng Off; APU Off | 106.92 | 106.67 | 148.27 | 165.76 | 290.77 | 291.40 | 354.63 | 359.13 | 335.31 | 320.72 | 214.93 | 114.93 |
| | Idle 4 - Main Eng Idle; APU On | 26.00 | 20.55 | 13.00 | 4.93 | 2.09 | 1.25 | 1.26 | 1.74 | 2.11 | 2.90 | 5.91 | 21.50 |
| | Total Hours | 420.43 | 369.71 | 370.45 | 336.06 | 377.55 | 381.05 | 457.07 | 473.78 | 450.03 | 484.60 | 421.64 | 434.42 |

| RCL | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 3.29% | 2.39% | 4.60% | 9.15% | 16.14% | 23.70% | 30.92% | 22.18% | 27.80% | 16.53% | 15.87% | 11.77% |
| | Idle 1 - Main Eng Idle; APU Off | 73.56 | 103.89 | 101.05 | 108.56 | 93.10 | 60.51 | 72.76 | 93.09 | 61.73 | 107.10 | 83.97 | 69.82 |
| | Idle 2 - Main Eng Off; APU On | 1.70 | 0.35 | 0.31 | 0.94 | 0.13 | 0.43 | 3.67 | 0.49 | 6.41 | 1.50 | 5.51 | 6.84 |
| | Idle 3 - Main Eng Off; APU Off | 1.86 | 2.35 | 4.87 | 10.46 | 17.86 | 19.95 | 32.66 | 26.12 | 20.80 | 19.85 | 12.66 | 4.40 |
| | Idle 4 - Main Eng Idle; APU On | 31.25 | 6.41 | 6.27 | 4.59 | 0.39 | 5.11 | 8.40 | 0.25 | 8.95 | 0.75 | 12.35 | 14.45 |
| | Main Eng Wkg; APU On | 30.16 | 6.19 | 7.82 | 5.25 | 1.00 | 5.16 | 7.00 | 0.83 | 9.60 | 1.93 | 6.85 | 16.38 |
| | Main Eng Wkg; APU Off | 79.15 | 106.31 | 115.03 | 108.89 | 114.43 | 83.99 | 89.75 | 107.49 | 86.15 | 133.23 | 99.08 | 91.30 |
| | Total Hours | 217.70 | 225.49 | 235.34 | 238.69 | 226.92 | 175.16 | 214.25 | 228.28 | 193.64 | 264.36 | 220.42 | 203.18 |
| | Gal Fuel Saved | -11.01 | 4.15 | 12.22 | 33.42 | 59.12 | 63.64 | 110.66 | 86.60 | 79.26 | 68.94 | 46.36 | 21.84 |
| | Tons $NO_x$ Reduced | 0.000 | 0.001 | 0.003 | 0.008 | 0.013 | 0.014 | 0.024 | 0.018 | 0.018 | 0.015 | 0.011 | 0.006 |
| MD Only | % Idle Management Effectiveness | 3.23% | 2.27% | 4.65% | 9.33% | 13.87% | 23.31% | 28.41% | 21.87% | 27.41% | 16.13% | 10.70% | 11.28% |
| | Idle 1 - Main Eng Idle; APU Off | 73.56 | 102.35 | 99.90 | 106.16 | 86.80 | 64.31 | 68.91 | 91.71 | 61.57 | 105.23 | 73.47 | 66.45 |
| | Idle 2 - Main Eng Off; APU On | 1.70 | 0.35 | 0.31 | 0.94 | 0.13 | 0.46 | 0.63 | 0.49 | 6.38 | 1.49 | 5.14 | 6.07 |
| | Idle 3 - Main Eng Off; APU Off | 1.79 | 2.17 | 4.87 | 10.46 | 13.91 | 20.55 | 29.85 | 25.26 | 20.24 | 18.88 | 5.15 | 4.14 |
| | Idle 4 - Main Eng Idle; APU On | 31.25 | 6.41 | 6.27 | 4.59 | 0.39 | 4.84 | 7.89 | 0.25 | 8.95 | 0.70 | 12.35 | 13.88 |
| | Total Hours | 217.62 | 221.97 | 231.55 | 231.23 | 204.94 | 178.87 | 199.10 | 224.04 | 192.22 | 256.76 | 192.92 | 189.57 |
| | Gal Fuel Saved | -11.24 | 3.57 | 12.22 | 33.42 | 46.41 | 66.13 | 94.29 | 83.81 | 77.36 | 65.81 | 21.27 | 19.45 |
| | Tons $NO_x$ Reduced | 0.000 | 0.001 | 0.003 | 0.008 | 0.010 | 0.015 | 0.021 | 0.018 | 0.018 | 0.014 | 0.006 | 0.006 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | RCL % time in MD | 99.74% | 98.35% | 99.47% | 98.60% | 94.64% | 82.84% | 93.68% | 99.12% | 99.75% | 96.31% | 88.78% | 93.04% |
| MD & Surrounding | % Idle Management Effectiveness | 47.04% | 44.41% | 53.88% | 49.11% | 71.96% | 78.62% | 81.39% | 75.71% | 78.85% | 72.53% | 65.62% | 58.96% |
| | Idle 1 - Main Eng Idle; APU Off | 193.03 | 218.34 | 219.86 | 229.19 | 126.54 | 83.67 | 90.04 | 121.03 | 87.96 | 124.48 | 150.05 | 176.54 |
| | Idle 2 - Main Eng Off; APU On | 81.19 | 56.77 | 73.14 | 19.19 | 4.18 | 41.58 | 25.64 | 15.10 | 32.13 | 23.93 | 65.24 | 104.89 |
| | Idle 3 - Main Eng Off; APU Off | 131.72 | 127.34 | 197.25 | 210.45 | 328.90 | 301.33 | 395.15 | 372.76 | 331.54 | 321.47 | 244.79 | 194.44 |
| | Idle 4 - Main Eng Idle; APU On | 46.70 | 12.09 | 11.55 | 8.76 | 3.27 | 9.55 | 6.17 | 3.40 | 9.59 | 6.33 | 12.41 | 31.79 |
| | Total Hours | 452.63 | 414.53 | 501.80 | 467.59 | 462.88 | 436.13 | 516.99 | 512.29 | 461.22 | 476.21 | 472.48 | 507.66 |

| SD50 | Statistic Per Locomotive | Jan-04 | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 | Oct-04 | Nov-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Locations | % Idle Management Effectiveness | 10.24% | 18.50% | 8.68% | 24.33% | 26.82% | 37.58% | 47.95% | 31.97% | 37.88% | 32.34% | 22.45% | 16.93% |
| | Idle 1 - Main Eng Idle; APU Off | 50.91 | 60.62 | 65.03 | 58.39 | 59.17 | 55.96 | 43.76 | 74.89 | 42.72 | 62.11 | 71.00 | 57.04 |
| | Idle 2 - Main Eng Off; APU On | 2.95 | 3.90 | 0.91 | 1.47 | 1.28 | 0.93 | 0.88 | 7.65 | 8.58 | 4.00 | 4.70 | 3.59 |
| | Idle 3 - Main Eng Off; APU Off | 5.52 | 13.83 | 5.48 | 17.68 | 21.08 | 33.67 | 39.90 | 27.76 | 21.25 | 27.22 | 16.48 | 10.12 |
| | Idle 4 - Main Eng Idle; APU On | 23.29 | 17.51 | 2.17 | 1.14 | 1.85 | 1.52 | 0.51 | 0.43 | 6.18 | 3.20 | 2.15 | 10.22 |
| | Main Eng Wkg; APU On | 37.72 | 24.72 | 4.45 | 2.61 | 5.84 | 4.34 | 1.64 | 1.42 | 15.83 | 9.08 | 7.55 | 24.21 |
| | Main Eng Wkg; APU Off | 100.23 | 88.30 | 122.41 | 138.88 | 101.52 | 139.05 | 111.53 | 122.95 | 101.47 | 77.93 | 104.20 | 71.36 |
| | Total Hours | 220.61 | 208.88 | 200.45 | 220.16 | 190.73 | 235.46 | 198.23 | 235.09 | 196.02 | 183.54 | 206.08 | 176.53 |
| | Gal Fuel Saved | 6.67 | 37.01 | 16.49 | 54.01 | 63.02 | 99.14 | 117.89 | 97.63 | 76.79 | 86.03 | 57.03 | 30.48 |
| | Tons $NO_X$ Reduced | 0.004 | 0.011 | 0.004 | 0.013 | 0.016 | 0.024 | 0.029 | 0.024 | 0.020 | 0.022 | 0.015 | 0.009 |
| MD Only | % Idle Management Effectiveness | 7.97% | 11.34% | 6.35% | 17.52% | 31.45% | 28.13% | 53.61% | 29.52% | 31.25% | 37.59% | 16.00% | 11.23% |
| | Idle 1 - Main Eng Idle; APU Off | 20.65 | 38.98 | 53.47 | 33.66 | 28.05 | 34.34 | 14.13 | 48.82 | 19.55 | 30.85 | 58.68 | 42.79 |
| | Idle 2 - Main Eng Off; APU On | 2.08 | 2.14 | 0.78 | 0.44 | 0.86 | 0.29 | 0.48 | 4.64 | 3.03 | 2.00 | 2.38 | 2.13 |
| | Idle 3 - Main Eng Off; APU Off | 1.40 | 4.60 | 2.95 | 6.79 | 12.92 | 13.30 | 16.08 | 15.98 | 6.83 | 18.40 | 9.09 | 4.23 |
| | Idle 4 - Main Eng Idle; APU On | 19.49 | 13.69 | 1.60 | 0.42 | 2.00 | 0.39 | 0.20 | 0.40 | 2.15 | 3.01 | 1.57 | 7.48 |
| | Total Hours | 90.21 | 120.00 | 132.71 | 89.11 | 86.17 | 91.74 | 52.18 | 125.64 | 83.67 | 102.65 | 119.05 | 110.80 |
| | Gal Fuel Saved | -4.66 | 8.78 | 9.24 | 20.50 | 38.21 | 39.15 | 47.78 | 56.62 | 25.19 | 55.99 | 30.72 | 11.93 |
| | Tons $NO_X$ Reduced | 0.001 | 0.004 | 0.002 | 0.005 | 0.010 | 0.010 | 0.012 | 0.014 | 0.007 | 0.014 | 0.008 | 0.004 |
| | SD50 % time in MD | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 | Jan-00 |
| MD & Surrounding | % Idle Management Effectiveness | 52.48% | 56.58% | 59.98% | 65.22% | 74.81% | 72.30% | 87.07% | 78.82% | 79.91% | 78.97% | 67.84% | 52.23% |
| | Idle 1 - Main Eng Idle; APU Off | 117.73 | 135.87 | 161.96 | 123.86 | 81.30 | 79.10 | 47.72 | 88.06 | 69.37 | 80.36 | 134.87 | 224.99 |
| | Idle 2 - Main Eng Off; APU On | 105.04 | 77.40 | 66.30 | 67.80 | 20.86 | 15.48 | 19.65 | 26.37 | 24.22 | 58.70 | 70.79 | 149.67 |
| | Idle 3 - Main Eng Off; APU Off | 85.20 | 138.73 | 190.00 | 171.99 | 230.68 | 196.49 | 321.77 | 310.79 | 281.30 | 286.51 | 230.94 | 136.53 |
| | Idle 4 - Main Eng Idle; APU On | 54.51 | 29.99 | 9.06 | 4.03 | 3.40 | 2.12 | 2.97 | 2.54 | 7.43 | 11.56 | 8.16 | 36.79 |
| | Total Hours | 362.47 | 382.00 | 427.32 | 367.68 | 336.23 | 293.19 | 392.10 | 427.76 | 382.33 | 437.12 | 444.76 | 547.99 |

## Terms Used in this Report

| Term | Definition |
|---|---|
| 802.11b | 802.11 refers to a family of specifications developed by the Institute of Electrical and Electronics Engineers (IEEE) for wireless local-area network (LANS) technology. 802.11 specifies an over-the-air interface between a wireless client and a base station or between two wireless clients. 802.11b is an extension to 802.11 that applies to wireless LANS and provides 11 Mbps transmission in the 2.4 GHz band. |
| Auxiliary Power Unit (APU) | The APU is an EcoTrans Technologies supplied 22 BHP Kubota (V2003-T-EBG-SAE-2) 4-cylinder turbocharged diesel engine powered co-generator set that produces 16 kW, 240V, 60Hz single phase electrical power at 1800-RPM. It features waste heat recovery, electric immersion heaters that maintain locomotive oil and water temperatures and auto shutdown of the main engine in idle. |
| Certified | Indicates the certified piece of equipment has been independently certified to meet one of the locomotive tier level emissions requirements of the EPA. |
| Co-generator | A class of energy producer that produces both heat and electricity from a single fuel. |
| CommLink Unit | CommLink, a Wabtec Railway Electronics communication system that enables the wireless downloading and uploading of the Engine Run Manager via IEEE 802.11b 2.4GHz spread spectrum radio to access points. |
| EFCO (Emergency Fuel Cutoff) | An emergency device used to immediately shutdown all rotating mechanical equipment on a diesel electric locomotive. |
| Engine Run Manager (ERM) | A data logging, report generating and engine and systems control device used on railroad locomotives. |
| GP38-2 | An EMD supplied 2000 HP, 4-axle road switcher locomotive. |
| GP40-2 | An EMD supplied 3000HP, 4-axle road switcher locomotive |
| GPS Tracking | Global Positioning System (GPS) tracking uses a fleet of more than 24 communications satellites that transmit signals globally around the clock. GPS tracking allows the quick and accurate determination of the latitude and longitude of a point on the Earth's surface. |

| Term | Definition |
|---|---|
| Idle | Idle is used generically to indicate a locomotive state in which the locomotive engine could be idling. It is broken into four idle categories; Idle 1, the main engine is idling and the APU is off; Idle 2, the main engine is off and the APU is on; Idle 3, the main engine is off and the APU is off; Idle 4, the main engine is idling and the APU is on. |
| Idle Management Effectiveness | How effectively a locomotive main engine is kept shutdown when it could be running at idle. This is expressed as a percent. |
| Low Idle Feature | A locomotive engine idling feature used to conserve fuel wherein the engine will rotate in idle at a slower speed than normal idle. |
| Missed Fuel Savings or Missed $NO_X$ Emissions | The difference between actual fuel saved or actual $NO_X$ emitted and what could have been saved or emitted if main engine running idle was held to zero. This is used to provide perspective only as it would not be practical to hold main engine running idle to zero. |
| Moving Idle Hours | The hours a locomotive is physically moving but the main generator is not generating power. The main engine may or may not be running. |
| Nitrous Oxide ($NO_x$), | $NO_X$ is formed inside an engine when combustion temperatures exceed 2500 degrees Fahrenheit. |
| PinPoint | A General Electric supplied locomotive Global Positioning System. This is installed on 50 of the 56 project locomotives and is independent of the project. |
| Potential (fuel or $NO_X$) | Refers to the amount of fuel that would be consumed or the $NO_X$ that would be emitted if the locomotive main engine were never shut down at idle. |
| Satellite Communications Terminal | The Wabtec supplied satellite terminal mounted at the long hood end of the locomotive used both for GPS tracking and for satellite data communication. |
| SD40-2 | An EMD supplied 3000HP, 6-axle road switcher locomotive |
| SD50 | An EMD supplied 3500HP, 6-axle road switcher locomotive |
| Stationary And Moving Idle | The sum of the hours for a locomotive when it is stationary idle and when it is moving idle. The locomotive main engine may or may not be running. |
| Stationary Idle | The hours for a locomotive when it is stationary idle. The locomotive main engine may or may not be running. |