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NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(10)
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New York City Police Department Automated Fuel Monitoring System Volume II--Documentation Report

AD A119954



**technology
transfer**

William J. McGrath
Margaret M. McNamara
Office of Special Programs Development

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PREFACE

The Naval Underwater Systems Center's mission is to be the Navy's principal research, development, and test and evaluation center for submarine warfare and submarine weapon systems. The project described in this report is part of an ancillary Center program called Technology Transfer. It represents a small part of the Center's overall program in terms of effort and budget, but is significant in terms of returning the benefits of Federal research and development to the public and private sectors.

The project was jointly sponsored by the Naval Underwater Systems Center, the National Science Foundation, and the New York City Police Department. It was conducted under NUSC Projects A90614 and B90614, NSF Grant ISP 7419143 (GT 43500), and NYCPD Contracts 0159000008, 0151P00419, and 0151005000; Principal Investigator, Mr. William J. McGrath (Code 001); Program Manager, Mr. Michael C. Ahrens (Code 0702).

The Technical Reviewer for this report was Mr. Robert J. Donovan (Code 07), Program and Financial Manager.

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Reviewed and Approved; 16 November 1981


R. J. Donovan

Head, Program and Financial Management Staff

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ABSTRACT

This report describes the New York City Police Department (NYCPD) Automated Fuel Monitoring System, from the original study, through system design, to implementation. The system provides complete control of fuel usage for an agency with 4,000 motor vehicles and 25,000 vehicle operators. As far as is known, it is the largest system of its kind installed to date. The system can be scaled up or down to meet the needs of other governmental units. Estimated annual cost savings to NYCPD are \$2,000,000.

This report is the second of two volumes. Volume I is an overview of the project. Copies of either volume can be obtained on request from:

Office of Special Programs Development (Code 0702)

U.S. Naval Underwater Systems Center

New London Laboratory

New London, CT 06320

Telephone: (203) 447-4108, -4590

Interested state and local government officials are encouraged to inspect the NYCPD system.



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FOREWORD

The Naval Underwater Systems Center (NUSC) has expertise in a broad range of technologies, including acoustics, electronics, ocean engineering, computer services, technical management, and systems development. Since 1970 it has been the Center's policy to share its technology with other Federal agencies and state and local governments. This sharing of resources, called Technology Transfer, became an article of Navy policy in 1972. Technology transfer now is a nationwide program for bringing the benefits of Federal technological research and development to the public and private sectors. It is an organized and systematic effort to help overcome problems that will yield to technological solutions.

The Congress of the United States has recognized the value of the technology transfer effort and has indicated its approval by passage, in late 1980, of the Stevenson-Wydler Technology Innovation Act, now Public Law 96-480. Section 11 of the Law directs the Federal Government to "strive where appropriate to transfer federally owned or originated technology to State and local governments and to the private sector."

NUSC's participation in technology transfer began in 1970 and has grown steadily, within the constraints that apply to the Navy's program: it cannot interfere with the Center's mission nor compete with private enterprise. The Center is now involved in technology transfer activities at the local, state, regional, and national levels. NUSC's Office of Special Programs Development is responsible for managing the program, which matches the network of resources with the users of technology to deliver technical assistance where it is most needed.

NUSC is a member of the Federal Laboratory Consortium for Technology Transfer, which includes about 200 Federal research and development laboratories and technical centers. The Consortium, in turn, is a participant in a program initiated in 1967 within the National Science Foundation's Division of Intergovernmental and Public Service Science and Technology. Since its inception, the Foundation's program has pioneered in the formation of a network of technology transfer users--state, local, and regional governments--and has helped the members of the network to recognize their technology needs, to define their problems, to seek assistance from resources available through the network, and to share the benefits of the problems they have thus solved.

The Automated Fuel Monitoring System designed and implemented for the New York City Police Department is a major project of NUSC's Technology Transfer program. This documentation of the project (TR 6567-II) is presented as a response to the spirit and intent of the nationwide technology transfer effort. The project is transferable to state, regional, and local governments. It can be, and has been, scaled up or down to meet the requirements of a broad spectrum of users. We believe it answers many questions that may be posed by potential users in terms of productivity, cost/benefit analysis, use of natural resources, and vehicle fleet use and maintenance, and that it can advance state and local governments well along the way toward solving troublesome problems. In addition, the private sector market has been stimulated to respond to system needs identified during the course of the project.

ACKNOWLEDGMENTS

Many individuals and organizations contributed generously of their time and expertise to the successful completion of this project. Management and staff of the Naval Underwater Systems Center and the New York City Police Department participated in all phases of the project, from problem definition through system design and implementation, by providing data, technical assistance and advice, graphics, and other essentials. While it was part of their responsibility, we hereby acknowledge with thanks their efforts "above and beyond the call of duty." Gratitude is deserved also by the following for their special contributions:

The cosponsorship of the project by the National Science Foundation's Division of Intergovernmental and Public Service Science and Technology was made possible by the support of Mr. Bruce J. Reiss, Program Manager for Local Governments. He provided the initial funding to the New York City Police Department, which led to the start of this project. The NSF Local Governments Program also sponsors the Urban Technology System, which provides funding for technology agents in a number of medium-sized cities (50,000 to 500,000 population) around the country. An Urban Technology System Brief led to the identification of fuel monitoring as a primary need by NYCPD.

The Federal Laboratory Consortium member laboratories, through their technology transfer representatives, provided technical advice when requested, and gave encouragement throughout the project. Mr. Nicholas Montanarelli, when he was program manager for Federal Laboratories at the National Science Foundation, provided funding for documentation of this project.

Deputy Inspector Kenneth R. Strange, Support Services Bureau, and Mr. Eugene C. Masci, director of the Motor Transport Division, New York City Police Department, steered the operation through the many administrative procedures and retained their equanimity and enthusiasm throughout. The dedication and perseverance of Sergeant Frank E. Stryjewski, the first User Representative, and Sergeant Thomas A. Kiernan and Police Officer Kenneth A. Hamel of the Fuel Control Center were the building blocks that finally put the system together.

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NEW YORK CITY POLICE DEPARTMENT
AUTOMATED FUEL MONITORING SYSTEM
VOLUME II--DOCUMENTATION REPORT

Section I

INTRODUCTION

A. BACKGROUND

On May 1, 1977, the Naval Underwater Systems Center (NUSC) entered into an agreement with the Police Department of the City of New York (NYCPD) to provide a technology linking agent to NYCPD. The purpose of the project was to determine if the results of Federal research and development could be applied to solve some of the technological problems of NYCPD. This activity was begun with a 1974 grant award from the National Science Foundation's Intergovernmental Science Division to the NYCPD Applied Technology Unit, Support Services Bureau. Since the late 1960's the National Science Foundation has provided funding for a broad spectrum of applied science and technology assistance projects with local, regional, and state governments. Its Intergovernmental Science Division is structured to include program elements for both users and providers of applied science and technology.

Mr. William J. McGrath, a management systems analyst from NUSC's New London Laboratory, was assigned on May 1, 1977, to the NYCPD Motor Transport Division, under the mobility provisions of the Intergovernmental Personnel Act of 1970. Mr. McGrath previously had designed and implemented an Asset Management System (AMS) for the NYCPD Quartermaster. AMS provided for control of all Department assets, including fleet vehicles, but vehicle maintenance was not built into the system. Mr. McGrath's assignment to the Motor Transport Division was made specifically to investigate the advantages of adding vehicle maintenance to the already existing Asset Management System. Also under consideration was a computerized parts inventory system.

B. PROBLEM IDENTIFICATION

During the first week of the project, Mr. McGrath was primarily concerned with assisting NYCPD Motor Transport Division in identifying their technical problems. In intergovernmental science parlance, this process is called needs assessment; it consists of listing all problems, and then placing priorities on each. Mr. McGrath reviewed available literature on successful automotive-related technology transfer programs and presented a number of brief technical write-ups to NYCPD officials. One was Urban Technology System Brief 42 concerning a Fuel System Monitor for Oklahoma City.

Within 2 weeks of the beginning of the project, the head of NYCPD Motor Transport Division identified fuel dispensing and monitoring as the first priority technical problem. He asked Mr. McGrath to study their existing system and make recommendations for improving it.

1. User Representative

There are two essential requirements of any systems analysis task, both of which were strictly adhered to by Mr. McGrath. The first is that a full-time user representative be assigned to work with the analyst beginning on Day One of a project. It is particularly important in intergovernmental projects, since the provider of the service usually is unfamiliar with the governmental unit to which he/she has been assigned. Mr. McGrath strongly recommended the assignment of a user representative and, accordingly, a sergeant assigned to the Motor Transport Division was designated as such on May 1. His participation contributed importantly to the short time-frame of the problem identification phase of the project.

The second requirement of systems analysis is to adequately define the problem before attempting to arrive at a solution or alternative solutions. The work described in section II of this report meets that requirement.

C. CONTACTS

The following individuals may be contacted for additional information or clarification of the material contained in this report:

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Section II

STUDY

A. PROBLEM DEFINITION

On May 11, 1977, the fuel system study was initiated at the direction of the Commanding Officer, Deputy Commissioner of Administration Office, NYCPD. The study was to be performed under the supervision of the Commanding Officer, Motor Transport Division.

1. Framework

The following information is essential to provide a conceptual understanding of the complexity of the NYCPD fueling operation:

- a. The Department is divided into 73 Precincts within the 5 Boroughs of New York City (Bronx, Brooklyn, Manhattan, Queens, Staten Island). Sixty-eight precincts have pumping stations.
- b. Any Department vehicle can secure fuel at any of the 68 stations.
- c. Some stations have two gas pumps, some only one.
- d. The capacity of the in-ground tanks varies from 550 to 3600 gallons.
- e. The Department has approximately 25,000 qualified motor vehicle operators.
- f. The Department operates about 4,000 motor vehicles, including motorcycles and scooters.
- g. Private vehicle fueling is provided for personnel on special detail.
- h. The number of transfers of personnel between Precincts is significant.

2. Existing Fuel System (May 1, 1977)

A flowchart of the manual fuel control system used by NYCPD was prepared with the cooperation of Motor Transport Division and the Department Quartermaster (see appendix A). Exhaustive interviews were held with all personnel involved in managing the fuel system. Mr. McGrath queried gas attendants, vehicle operators, and precinct desk officers about the dispensing and receiving processes, and Quartermaster office personnel about the billing process. It was essential to the study that he determine all the physical steps and paper flow involved in the operation. He also checked Department directives and compared the directives with actual procedures.

The primary findings were:

- a. All transactions (dispensing and receiving) were manually recorded in the Gasoline and Oil Receipt Book (referred to as MT 9, figure II-1) by the attendant, and were signed by the Department operator.

DISPENSING STATION		RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE		RECEIPT NO. B 563500	
PRECINCT					
QUANTITY	Unit of Measure	SUPPLIES	DATE		
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐	
	Quarts	Oil	MAKE	DEPT. No.	
	Pounds	Grease	LIC. No.	COMMAND	
	Gallons	Anti-Freeze	Speedometer Reading	Miles	
DISPENSED BY			RECEIVED BY		
Dispensing Officer, Sign here			Operator, Sign here		
Shield No. _____ Command _____			Shield No. _____ Command _____		

M.T. 9-260M-701838(66) 114

DISPENSING STATION		RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE		RECEIPT NO. B 563501	
PRECINCT					
QUANTITY	Unit of Measure	SUPPLIES	DATE		
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐	
	Quarts	Oil	MAKE	DEPT. No.	
	Pounds	Grease	LIC. No.	COMMAND	
	Gallons	Anti-Freeze	Speedometer Reading	Miles	
DISPENSED BY			RECEIVED BY		
Dispensing Officer, Sign here			Operator, Sign here		
Shield No. _____ Command _____			Shield No. _____ Command _____		

M.T. 9-260M-701838(66) 114

DISPENSING STATION		RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE		RECEIPT NO. B 563502	
PRECINCT					
QUANTITY	Unit of Measure	SUPPLIES	DATE		
	Gallons	Gasoline	AUTOMOBILE ☐	MOTORCYCLE ☐	
	Quarts	Oil	MAKE	DEPT. No.	
	Pounds	Grease	LIC. No.	COMMAND	
	Gallons	Anti-Freeze	Speedometer Reading	Miles	
DISPENSED BY			RECEIVED BY		
Dispensing Officer, Sign here			Operator, Sign here		
Shield No. _____ Command _____			Shield No. _____ Command _____		

M.T. 9-260M-701838(66) 114

Figure II-1. Exhibit From Gasoline and Oil Receipt Book

b. The manual system required the services of a full-time gas attendant for at least two of the three daily duty shifts.*

c. Each Precinct was responsible for reordering its own fuel from vendor.

Appendix A illustrates the complexity and potential for error inherent in the manual billing transactions.

3. Data Collection

A decision was made to gather data for the month of January 1977.

a. Fuel Dispensing Questionnaire

A fuel dispensing questionnaire (figure II-2) was developed and forwarded on May 18 to the NYCPD Chief of Operations for endorsement. It was approved and forwarded to the fueling precincts on May 23.

b. Fuel Matrix

A fuel matrix was developed (figure II-3) and completed on May 31. Data gathered from the NYCPD Personnel Office concerning manpower distribution and labor costs, and from the questionnaires and MT 9 books received from the Precincts, were posted to the matrix, which was completed on June 28. All receipts and deliveries for the month of January 1977, approximately 32,000 transactions, were physically checked and posted.

c. Inspection of Automated Systems in Other Localities

Early in August 1977, Mr. McGrath of NUSC and the Quartermaster and the user representative of NYCPD inspected currently operating automated fueling systems in Cincinnati, Ohio, and Oklahoma City, Oklahoma. The physical inspection was useful for concept and comparison purposes. Interested state and local government officials are encouraged to inspect the NYCPD system.

4. Proposed Automated Fuel System

A flowchart of a proposed automated on-line fuel system was prepared (see appendix B). The data gathered during the study were used to make cost comparisons between the existing (manual) and proposed (automated) systems.

*If the gas attendant was at lunch or off duty, gas pumps were padlocked. In that case, officers needing fuel had to secure MT 9 books and keys from the Desk Sergeant, unlock pumps, pump their own gas, make entries in the MT 9, lock pumps, and return keys and books to the Desk Sergeant--often a somewhat lengthy procedure.

QUESTIONNAIRE PERTAINING TO FUEL DISPENSING

COMMAND _____ LOCATION _____

1. Number of personnel assigned to dispensing gasoline? _____
2. The rank/title of the above personnel?
P.O. _____ MVO _____ Laborer _____ Cleaner _____ Other _____
3. Are the gasoline dispensing duties full time or collateral?
Full _____ Collateral _____
If collateral what percentage of time spent in this duty? _____%
4. Number of pumps at your station? _____
5. Total tank capacity? _____
6. Number of privately owned vehicles permitted to get fuel at your station? _____
7. Specify the amount of gasoline delivered by the vendor to your tanks on each of the listed dates as per Precinct Log Entries.

1977

Jan. 1 _____	Jan. 9 _____	Jan. 17 _____	Jan. 25 _____
Jan. 2 _____	Jan. 10 _____	Jan. 18 _____	Jan. 26 _____
Jan. 3 _____	Jan. 11 _____	Jan. 19 _____	Jan. 27 _____
Jan. 4 _____	Jan. 12 _____	Jan. 20 _____	Jan. 28 _____
Jan. 5 _____	Jan. 13 _____	Jan. 21 _____	Jan. 29 _____
Jan. 6 _____	Jan. 14 _____	Jan. 22 _____	Jan. 30 _____
Jan. 7 _____	Jan. 15 _____	Jan. 23 _____	Jan. 31 _____
Jan. 8 _____	Jan. 16 _____	Jan. 24 _____	

8. Please enclose MT 9 (Gasoline and Oil Receipt Book or Books) for the period January 1, through January 31, 1977, with the completed questionnaire. At the completion of this study the MT 9 will be returned.

Figure II-2. Exhibit of Fuel Dispensing Questionnaire

EXPLANATION OF FUEL MATRIX

COMMAND	FACILITIES		DELIVERY DATA			DISPENSING DATA				
	TANK CAPACITY	NO. OF PUMPS	GALS. APPROVED FOR PAYMENT	GALS. DELIVERED PER LOG	DIFFERENCE (GALS.)	RECEIPT BOOKS MT9	ADJUSTED QTMSTR DELIVERIES	DIFFERENCE	ADJUSTED DESK LOG DELIVERIES	DIFFERENCE
1	2	3	4	5	6	7	8	9	10	11

ITEM

1. PUMPING STATION IDENTIFICATION
2. IN GROUND GALLON CAPACITY
3. NUMBER OF PUMPS PER STATION
4. GALLONS APPROVED FOR PAYMENT (JAN 1977)
5. GALLONS DELIVERED PER COMMAND DESK LOG
6. DIFFERENCE
7. RECEIPT BOOKS (MT9)
8. ADJUSTED QUARTERMASTER DELIVERIES
9. DIFFERENCE
10. ADJUSTED DESK LOG DELIVERIES
11. DIFFERENCE

SOURCE

- QUESTIONNAIRE
QUESTIONNAIRE
QUESTIONNAIRE
- QUARTERMASTER RECORDS
QUESTIONNAIRE
DIFFERENCE BETWEEN COLS. 4 & 5
- TABULATION OF INDIVIDUAL ENTRIES FROM FUEL DISPENSING RECEIPT BOOKS FOR SAMPLE FULL IN-GROUND TANK TO FULL IN-GROUND TANK BASED ON QUARTERMASTER RECORDS
DIFFERENCE BETWEEN COLS. 7 & 8
FULL IN-GROUND TANK TO FULL IN-GROUND TANK BASED ON DESK LOG ENTRIES
DIFFERENCE BETWEEN COLS. 7 & 10

MANPOWER DISTRIBUTION							LABOR COST			REMARKS	PRIVATE VEHICLES	TRANS - ACTIONS
TYPE PERSONNEL				TOTAL PERSONNEL	% LABOR HOURS EXPENDED	EQUIV MAN-YRS	PER GALLON	PER MONTH	PER YEAR			
P.O. 16770	MVO 11500	CLEAN 9155	OTHER 8450				19	20	21	22	23	24
12	13	14	15	16	17	18						

ITEM

12. NUMBER AND TYPE OF MANPOWER ASSIGNED TO DISPENSING FUEL
13. TOTAL MANPOWER PER PUMPING STATION
14. PERCENT OF LABOR HOURS EXPENDED
15. EQUIVALENT MAN-YEARS

SOURCE

- QUESTIONNAIRE
QUESTIONNAIRE
COMPUTATION FROM QUESTIONNAIRE
- COL 20 DIVIDED BY COL 8
COL 21 DIVIDED BY 12 (UNACCELERATED)
EXISTING SALARY TABLES
- PERTINENT EXPLANATORY DATA
MT9 RECEIPT BOOKS
COUNT OF RECEIPT TRANSACTIONS

Figure II-3. Explanation of Fuel Matrix

5. Study Report to NYCPD Management

A formal presentation and report were prepared and presented to Department management on September 13, 1977. Pertinent portions of the report are reproduced on the following pages. They are:

- Analysis of Response from Precinct Pumping Stations for January 1977*
- General Recording Problems Noted During Analysis
- Major System Problems
- Manpower and Labor Cost (Existing System)
- Projected Annual Error
- System Options
- Annual Operating Systems Comparison
- On-Line System Cost (1977 dollars)
- What's Next? (illustrates only that the study has been completed and further action necessitates a decision by Department management).

Portions of the NYCPD Patrol and Administrative Guides containing the duties and responsibilities of gasoline dispensers, delivery of gasoline to a station house, daily gasoline summary, private vehicle authorization, vehicle identification plates, and gas and oil for private vehicles were included in the report (see appendix C) to illustrate differences between the guidelines and the practices actually followed as determined during the study.

Mr. McGrath recommended a fully automated fuel dispensing system.

*The number of precincts with pumping stations increased slightly from the time of the study to total system installation.

**NYCPD FUEL DISPENSING STUDY FOR JANUARY 1977
ANALYSIS OF RESPONSE FROM PRECINCT PUMPING STATIONS**

64 COMMANDS WITH PUMPING STATIONS

- 2 COMMANDS RESPONSE INCOMPLETE BY CUTOFF DATE
- 2 COMMANDS PUMPS OUT OF SERVICE DURING SURVEY PERIOD
- 1 COMMAND COULD NOT LOCATE MT9's FOR SURVEY PERIOD
- 1 COMMAND DOES NOT MAINTAIN MT9's

**58 COMMANDS SURVEYED FOR MONTH OF JANUARY 1977
REPRESENTED:**

- 121 MT9 FUEL RECEIPT BOOKS
- 32,000 RECEIPT TRANSACTIONS FOR JANUARY
- 574 DELIVERIES FROM VENDOR
- 100,000 GAL IN-GROUND CAPACITY (APPROX)

**GENERAL RECORDING PROBLEMS
NOTED DURING ANALYSIS**

**INSTANCES OF RECORDING ERRORS WERE NOTED
IN THE FOLLOWING AREAS:**

- RECEIPTS WITHOUT GALLONS DISPENSED POSTED
- VEHICLES NOT IDENTIFIED PROPERLY
- GAS DISPENSED EXCEEDED VEHICLE TANK CAPACITY
- PROTECTIVE COUNTER READINGS NOT RECORDED OR RECORDED AFTER THE FACT
- INCOMPLETE ENTRIES
- POSTINGS ILLEGIBLE
- PAGES MISSING
- DATES SKIPPED YET GAS DELIVERED DURING PERIOD
- RECEIPT BOOKS POORLY MAINTAINED

MAJOR SYSTEM PROBLEMS

- SYSTEM LACKS CAPABILITY TO CORRELATE DELIVERIES AND DISPENSING ON BOTH A CONTINUING AND DEMAND BASIS FOR CONTROL AND/OR AUDIT PURPOSES
- NO FINAL ACCOUNTING, CONTROL, OR OVERALL MANAGERIAL RESPONSIBILITY OF TOTAL GAS DISPENSING SYSTEM
- NO SYSTEMATIC ORDERING PROCEDURE OR DELIVERY SCHEDULING.
- STATISTICAL DATA ON FUEL CONSUMPTION FOR VARIOUS CLASSES AND TYPES OF VEHICLES NOT AVAILABLE.

MANPOWER & LABOR COST (UNACCELERATED SALARIES)

MANPOWER:	NO. PERSONNEL INVOLVED	EQUIVALENT MAN-YEARS
POLICE OFFICERS — — — — —	111	— — — 52.27
MOTOR VEHICLE OPERATORS — — — — —	6	— — — 3.9
CLEANERS — — — — —	32	— — — 12.74
OTHERS — — — — —	8	— — — 4.95
TOTAL — — — — —	157	
EQUIVALENT MAN-YEARS — — — — —		— — — 73.86

COST:

LABOR PER GALLON DISPENSED — — — — —	19¢
MONTHLY LABOR COST FOR JAN 1977 — — — — —	\$94,478
PROJECTED ANNUAL LABOR COST — — — — —	\$1,133,762

PROJECTED ANNUAL ERROR

	JAN. 77	PROJECTED ANNUAL	
DELIVERY DATA			
GALLONS DELIVERED PER QTMSTR RECORDS --	539,244 GALS.	6.4 MILLION	
PCT LOGS ERROR FACTOR -- -- -- -- --	23,492 GALS.	282,000	4%
DISPENSING DATA			
PCT MT9's ERROR FACTOR -- -- -- -- --	36,423 GALS.	437,076	7.5%

SYSTEM OPTIONS

• UPGRADE & REINFORCE CURRENT SYSTEM	NOT RECOMMENDED
• KEYPUNCH FROM SOURCE DOCUMENTS (REVISED MT9's)	NOT RECOMMENDED
• AUTOMATED ON-LINE FUEL MONITORING & DISPENSING	RECOMMENDED

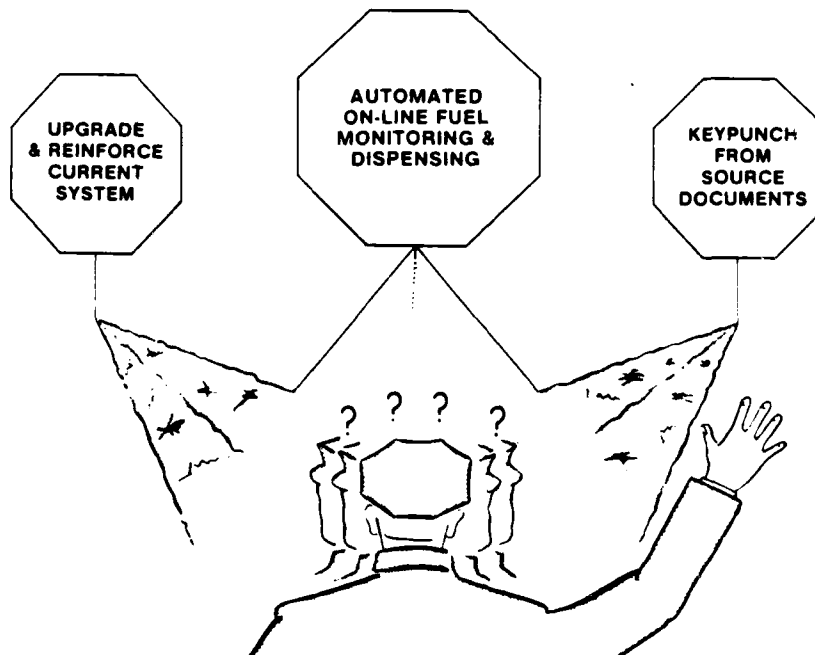
ANNUAL OPERATING SYSTEMS COMPARISON (1977 COSTS, COLLECTED FOR INITIAL STUDY)

	COST			SYSTEM CAPABILITY			SOLVE SYSTEM PROBLEMS			
	PERSONNEL SERVICES SALARIES	MATERIAL COST	PER GALLON	CONTROL	DETECT TANK LEAKAGE	DETECT VENDOR DISHONESTY	GENERAL RECORDING PROBLEMS	CENTRALIZED CONTRL/RESP	MAJOR PROBLEMS AUDIT TRAIL	COMPILE, RETRIEVE, & REPORT
• UPGRADE EXISTING SYSTEM	\$1,133,762	\$1400 (MT9 BOOKS)	19¢	DIVERSE	NO	NO	NO	NO	EXTREMELY DIFFICULT	NO
• KEYPUNCH SOURCE DOCUMENTS	LIMITED "QUALIFY ALL"	SAME	-0-	NONE	NO	NO	COMPOUNDED	NO	EXTREMELY DIFFICULT	NO
	\$1,133,762 + KEYPUNCH OPERATORS	\$2500 INPUT SHEETS & PUNCHED CARDS + ?	19¢	DIVERSE	NO	NO	COMPOUNDED	NO	AFTER THE FACT	
	LIMITED "QUALIFY ALL"	370 COMPUTER TIME	-0-	NONE	NO	NO	COMPOUNDED	NO	AFTER THE FACT	
• AUTOMATED ON-LINE SYSTEM	\$13,600 (4 MONITORS) 20% TIME	\$2500 42,000 ID CARDS, PAPER, & TELEPHONE LINE RENTAL	01¢	COMPLETE & CENTRALIZED	YES	YES	YES	SYSTEM DEMANDS	AUTOMATIC	YES

ON-LINE SYSTEM COST (1977 DOLLARS)

COMPONENTS	1ST YR COST	ANNUAL ON GOING CCST
1. REMOTE DATA UNITS (\$3840 X 65 STATIONS)-----	\$249,600	
2. PUMP MODIFICATION & PULSER (\$100 X 100 PUMPS)----	10,000	
3. TELEPHONE LINES (2 PAIR/VOICE GRADE MO/RENTAL \$7.64 X 65 X 12)-----	6,000	\$6,000
+ MILEAGE (EST 800 MILES \$3000/MO X 12)-----	36,000	\$36,000
4. ACQUISITION & CONTROL UNIT-----	26,615	
5. SUPPORTING SOFTWARE-----	2,400	
6. CARD ENCODER (MAGNETIC) (2--1 FOR PERSONNEL & 1 FOR VEHICLES)-----	4,600	
7. CARD STOCK (@ .56/CARD) (35,000 CDS - 1ST/YR) (3000 CDS/EA ADD/YR)-----	17,500	2,000
8. TELEPHONE LINE INSTALLATION (\$40 X 65)-----	2,600	
TOTAL	\$355,315	\$44,000
APPROX 40% INSTALLATION COST	142,126	
OPERATING SALARIES(4 EQUIV. MAN-YRS)		72,000
TOTAL	\$497,441	\$116,000
COST PER GALLON	7¢	1.5¢

WHAT'S NEXT?



B. PILOT PROJECT

One week following the study report presentation, NYCPD management decided to proceed with the design and installation of the recommended automated fuel dispensing system. Mr. McGrath and the NYCPD User Representative were given the responsibility for preparation of the system specifications and Request for Proposal. In Mr. McGrath's opinion, the optimum design would use a minicomputer housed at Motor Transport Division to activate the pumps and perform validity checks, with the bulk of the data being passed to a central computer at Police Headquarters, in the Management Information Systems Division (MISD). However, MISD rejected that plan from the outset, because they did not have enough manpower to support an additional activity of this size and scope.

About this time the New York City Mayor's Office of Operations became interested in the project, with a view toward eventually installing an automated fuel system citywide. The Office of Operations offered to furnish host computer capability for the total system but suggested a pilot installation for proof of concept. They also offered to loan NYCPD an IBM System 7 computer for the pilot, which they were not using at that time. NYCPD accepted the suggestion and the computer, and decided to carry out the pilot project in the three precincts on Staten Island, all of which have pumping stations. The reason for using Staten Island as a test site is worth mentioning: it has finite boundaries and is remote from the other four boroughs; therefore, there is very little crossover of police officers from other districts into Staten Island. This eliminated the problem of officers from other districts having difficulty getting fuel for department vehicles because they did not have the necessary magnetic-stripe cards to activate the system.

NYCPD management had given careful consideration to the decision to proceed with the installation of an automated fueling system. They, therefore, determined to go ahead with the suggested pilot system, but only for approximately 4 months. Specifications for the total system were to be prepared, and bids let, during that period. The pilot, in essence, was to provide the necessary time for NYCPD to interface with the Mayor's Office of Operations, and to explore the use of the host computer.

The bid on the pilot system was won by American Energy Management Systems, and the three Staten Island precincts were automated on October 30, 1978. The pilot was successful and well accepted by the users. It ran for a much longer period than was originally intended, and eventually was discontinued when the supply of actuator cards ran out and difficulties arose in having repairs made to the System 7 computer.

Section III

SYSTEM DESIGN

A. INTRODUCTION

The original design for the Departmentwide automated fuel dispensing system was prepared presuming the use of an IBM 370 host computer residing in the Mayor's Office of Operations. For that reason, a great deal of time in writing the Request for Proposal was given over to defining the reporting requirements for the system. It was intended that a minicomputer in the NYCPD Motor Transport Division Control Center would perform validity checks and activate the pumps, and also would provide the capability to validate and invalidate operator and vehicle cards instantaneously. The data would be passed daily to the IBM 370, and the 370 would provide the reporting capability necessary for complete fleet maintenance and budgetary cost control. Reports would be issued within 24 hours.

Following is the text of a memorandum to all New York City Departments from the Director of Operations, Office of the Mayor, dated March 6, 1978:

"The Police Department in cooperation with the Naval Underwater Systems Center have been investigating different gas monitoring systems. They have chosen an on-line credit card system in Staten Island.

"I believe that this system could have citywide application and has the potential for reducing gas expense by ten percent.

"I would like to invite you to a presentation by the Police Department on March 15th, at 10:00 AM at 250 Broadway, 18th Floor.

"There will be a discussion period after the presentation, and we will ask you for your comments pertaining to implementation in your Department."

The presentation was made, as scheduled, by the Motor Transport Division team. Subsequently, the Mayor's Office of Operations decided to proceed with the design of an all-encompassing citywide fuel system. Much of that design was to be similar to the NYCPD system, but was to be expanded to a massive interdepartmental effort including a diversity of equipment and management practices. The time lag for the design and implementation of a citywide system would be long and costly. NYCPD had the design and was ready to go ahead with implementation, with assistance from the NUSC management systems analyst funded by the National Science Foundation. In order to avoid further delay in implementation of a much-needed system, NYCPD decided to proceed, though still using the City's IBM 370 computer. Later, after the contract for the Departmentwide system had been awarded, it was determined that the 370 was not available because of programming priorities, and the system had to be reprogrammed to stand alone. It is hoped that New York City eventually will adopt the original system designed for NYCPD, which included fleet maintenance reporting. In that event, however, reprogramming the NYCPD system will be expensive.

For the information of agencies that may consider replicating this system design, a list of equipment suppliers, a configuration diagram of the original system design, a list of the host computer files, and a sample listing of the host computer file report capability are included in this report as appendixes D and E.

B. SYSTEM SPECIFICATIONS AND CHANGE ORDERS

On December 7, 1978, a specification package for the total system was submitted to NYCPD management for review and approval. On February 4, 1979, a meeting was held with New York City Public Works Department to discuss the bid procedures, which they were to handle. On June 11, 1979, Public Works submitted a finalized proposal to Motor Transport Division for comments. It was reviewed and returned to Public Works on June 12, 1979, and was advertised in the City Record on June 18, 1979.

The first bid opening was July 10, 1979. Only one vendor submitted a bid. A number of other prospective vendors felt they did not have sufficient time for submittal, and the bid price was considerably over the capital funds set aside for the project. These factors caused Public Works to readvertise the proposal.

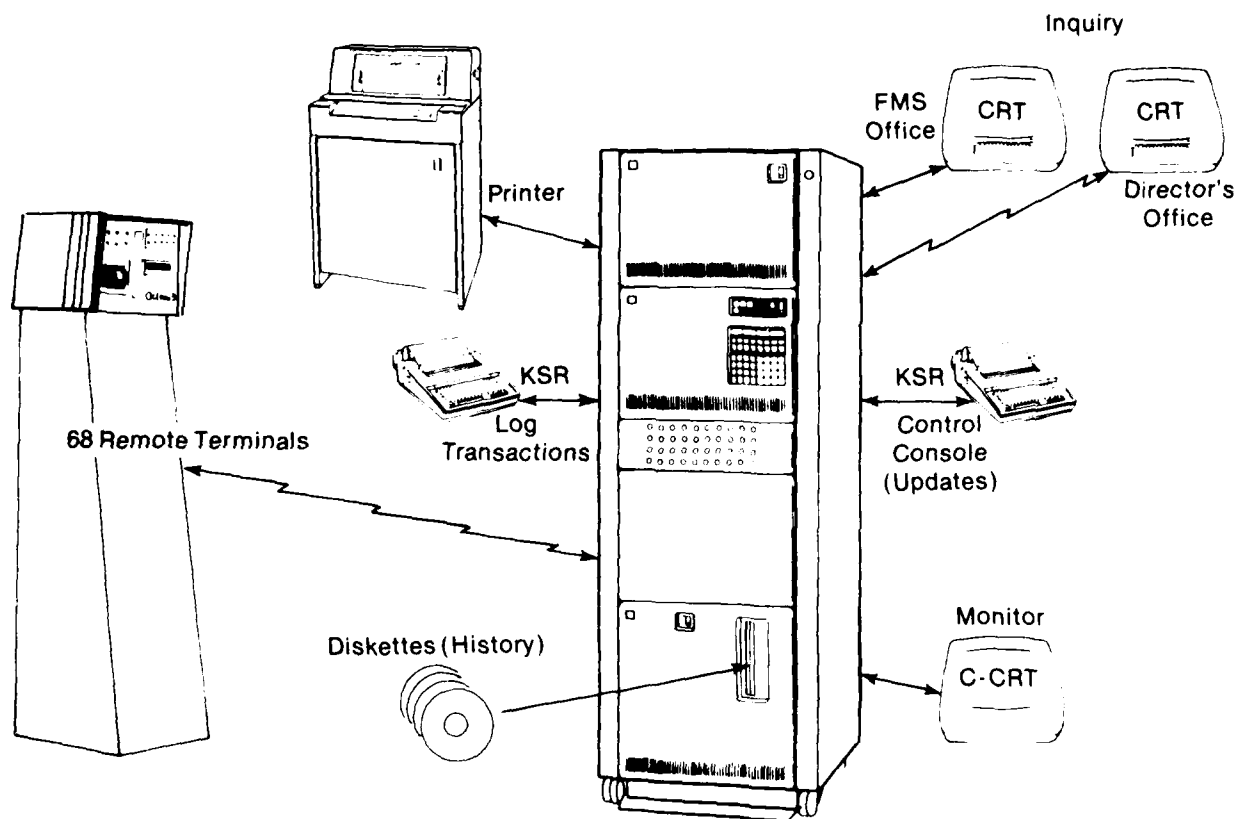
Three bids were received at the second opening on August 30, 1979. Problems existed with each bid in terms of exceptions and performance bonds, so Public Works advertised a third time. After the third bid opening, on December 10, 1979, the contract was awarded to E. J. Ward, Inc., of San Antonio, Texas.

The Specifications and Change Orders are included in appendix F of this report. The Specifications are for the system using a minicomputer in the NYCPD Motor Transport Division Control Center and the IBM 370 host computer in the Mayor's Office of Operations. The Change Orders reflect, among other things, the loss of the host capability. They (necessarily) were promulgated after the contract was awarded, and were agreed to by the vendor.

C. SYSTEM CONFIGURATION

A diagram of the New York City Police Department On-Line Fuel Monitoring System Configuration is shown in figure III-1. The Transaction Type Codes in figure III-1 are further defined in the Octane Transaction File Layout, figure III-2. The system incorporates the following equipment:

1. IBM Series/1 Modular Units mounted in an IBM 4997 Model 2A Rack Enclosure, with:
 - a. IBM 4955 Model E Processor
 - b. IBM 4959 Model A Input/Output Expansion Unit
 - c. IBM 4962 Model 2 Disk Storage Unit
 - d. IBM 4964 Model 1 Diskette Unit
 - e. UDS RM-16DC Multiple Modem Enclosure, Rack Mounted RM-16CAB Cabinet.



New York City Police Department On-Line Fuel Monitoring System

2 Card System

White Card: Operator
Blue Card: Vehicle

Transactions

	Thumb Wheels	Limit
Dispensing	Mileage	Tank Capacity
Delivery	Gallons	Tank Capacity
Inventory	Gallons	Tank Capacity
Oil	Quarts	9 Quarts

Master Cards

Red Card

Private Vehicle	4 Digit	10 Gallons
	Soc Sec No	

Green Card

Lost Vehicle Card	Vehicle ID No	Tank Capacity
Equip With No ID	009999	5 Gallons
Inventory Dip	70 Gallons	Tank Capacity
Delivery	90 Gallons	Tank Capacity
2 Wheel Scooters	009XID	2 Gallons
Motor Cycles	0089ID	5 Gallons

Computer Files

Operator

Actuator Card Number
Social Security Number
Assigned Command
First Initial
Surname
Status Code - On/Off
Type Code - PVC
Card Sequence Number

Vehicle

Actuator Card Number
Dept Vehicle Number
Assigned Command
Vehicle Class
Fuel Type
Miles Limit
Last Odom Reading
Vehicle Tank Capacity
Card Sequence Number

Tank Pump

Site ID
Site Status
Tank ID
Tank Status
Pump ID
Pump Status
Fuel Type
Tank Capacity
Reorder Point
Shutdown Point
Opening Balance (Mid Night)
Number of Deliveries
Terminal Address
Telephone Line Number
(Sense Manual O/Ride)

Print Transaction

1. Sequence Number
2. Transaction Type
3. Date & Time
4. Vehicle Command
5. Vehicle Number
6. Odometer Entry
7. Site Number
8. Tank Number
9. Fuel Type
10. Pump Number
11. Gallons Pumped
12. Calculated MPG
13. Vehicle Class
14. Operator Command
15. Operator Soc Sec No

Transactions

- 00 V
- 01 L
- 02 H
- 05 R
- 10 Q
- 20 M
- 27 T
- 30 N
- 31 C
- 41 V
- 43 V
- 44 V
- 45 V
- 46 V
- 47 V
- 49 V
- 53 V


 CRT
Director's
Office

Fuel Monitoring System Configuration

Transaction Type Codes

00	Vehicle Fueling	54	Change Status Telephone Line To Off
01	Low Odometer		Change Status Terminal To Off
02	High Odometer		Change Status Master Card To Off
05	Private Vehicle Fueling		Change Status Tank To Off
10	Oil Issue		Change Status Pump To Off
20	Master Card Vehicle Fueling		Change Status PVC Fueling To Off
27	Inground Inventory	55	Change Site Tank Number T/P File
30	Manual Entry Vehicle Fueling		Change Fuel Type T/P File
31	Console Fuel Receipt		Change Number Times Ordered T/P File
41	Vehicle Add		Change Tank Capacity T/P File
43	Vehicle Change Status To ON		Change Shutdown Point T/P File
44	Vehicle Change Status To Off		Change Opening Balance T/P File
45	Change Field Vehicle File		Change Reorder Point T/P File
46	Change Odometer Vehicle File	61	Operator Add
47	Reassign Vehicle New Card Number	63	Change Operator Status To On
49	Delete Record From Vehicle File	64	Change Operator Status To Off
53	Change Status To Telephone Line On	65	Change Operator Soc Sec No
	Change Status To Terminal On		Change Operator Command
	Change Status To Master Card On		Change Operator PVF Status
	Change Status Tank To On		Change Operator Name
	Change Status Pump To On		Change Number Cards Issued
	Change Status PVC Fueling To On	67	Reassign Operator New Card Number
		69	Delete Operator

Figure III-1

 III-3/III-4
 Reverse Blank

WORD BYTE		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
00	VEHICLE FUELING	SEQUENCE		TRAN TYPE		MONTH		DAY		HOUR		MINUTE		VEHICLE		VEHICLE		MPG		ODOM READING				OPERATOR											
01	LOW ODOM	NUMBER		0 0										COMMAND		NUMBER																			
02	HIGH ODOM																																		
05	PRIVATE VEHICLE FUELING	"		0 5		"		"		"		"		BLANKS		PVF CARD NUMBER				BLANKS				"											
20	MASTER CARDS VEHICLE FUELING	"		2 0		"		"		"		"		VEHICLE COMMAND		VEHICLE NUMBER		MASTER CARD NUMBER		BLANKS				"											
30	MANUAL ENTRY VEHICLE FUELING	"		3 0		"		"		"		"		"		"		BLANK		ODOM READING				"											
90	MANUAL FUEL RECEIPT	"		9 0		"		"		"		"		GALLONS OF FUEL RECEIVED		BLANK		MASTER CARD NUMBER		SITE NUMBER		SITE TANK #		FUEL TYPE		TANK #/MP #									
91	AUTO FUEL RECEIPT	"		9 1		"		"		"		"		"		"		"		ZEROS				"		"		"		"					
41	VEHICLE ACQUISITION	"		4 1		"		"		"		"		CARD NUMBER		VEHICLE COMMAND		VEHICLE CLASS		FUEL TYPE 1		FUEL TYPE 2		LIMIT MILES				ODOM READING							
43	CHANGE VEHICLE OR STATUS TO "ON" OR "OFF"	"		4 3-4		"		"		"		"		"		VEHICLE NUMBER																			
44																																			
45	CHANGE FIELD IN AUTHORIZATION FILE	"		4 5		"		"		"		"		VEHICLE NUMBER		BLANK		FIELD NUMBER		NEW DATA (16 BYTES)															
46	CHANGE ODOM RDG. IN AUTHOR. FILE	"		4 6		"		"		"		"		"		"		OLD ODOMETER READING		NEW ODOMETER READING															
47	REASSIGN VEH. TO A NEW CARD #	"		4 7		"		"		"		"		OLD CARD NUMBER		"		VEHICLE NUMBER		NEW CARD NUMBER															
49	DELETE VEHICLE FROM THE FILE	"		4 9		"		"		"		"		CARD NUMBER		"		"																	
53	CHANGE STATUS OF LINE TO 'ON' OR 'OFF'	"		TRAN TYPE 5 3-4		"		"		"		"		ITEM CODE 0 1				BLANKS																	
54																																			
53	CHANGE STATUS OF TERMINAL TO 'ON' OR 'OFF'	"		"		"		"		"		"		0 2		TERMINAL NUMBER		BLANKS																	
54																																			
53	CHANGE STATUS OF MASTER CARD TO 'ON' OR 'OFF'	"		"		"		"		"		"		0 3		MASTER CARD NUMBER		BLANKS																	
54																																			
53	CHANGE STATUS OF TANK TO 'ON' OR 'OFF'	"		"		"		"		"		"		0 4		BLANKS		SITE NUMBER		TANK #		BLANKS													
54																																			
53	CHANGE STATUS OF PUMP TO 'ON' OR 'OFF'	"		"		"		"		"		"		0 5		"		"		PUMP #		BLANKS													
54																																			
53	CHANGE STATUS OF PRIVATE VEHICLE FUELING TO ON OR OFF	"		"		"		"		"		"		0 6		PRIVATE VEHICLE CARD NUMBER		BLANKS																	
54																																			
55	CHANGE SITE TANK # IN TANK FILE	"</																																	

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San Antonio, Texas 78217
(512-824-7383)

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28									
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39									
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56									
MPG		ODOM READING				OPERATOR SS No.				OPERATOR COMMAND		VEHICLE CLASS		ODOM CHK CND		SITE NUMBER		SITE TNR #		FUEL TYP		TANK PUMP #		GALLONS	
BLANKS				"				"				BLANKS		"		"		"		"		"		"	
MASTER CARD NUMBER		BLANKS				"				"		VEHICLE CLASS		BLNK		SITE NUMBER		"		"		"		"	
BLANK		ODOM READING				"				"		"		"		"		"		"		"		"	
MASTER CARD NUMBER		SITE NUMBER		SITE TANK #		FUEL TYPE		TANK PUMP #		BLANKS															
ZERONES		"		"		"		"		BLANKS															
VEHICLE CLASS		FUEL TYPE		FUEL TYPE		LIMIT MILES		ODOM READING				GALLONS LIMIT		VEHICLE NUMBER		BLANKS						ORIGIN			
BLANKS																		"							
NEW DATA (1-6 BYTES)		BLANKS															"								
OLD ODOMETER READING				NEW ODOMETER READING				BLANKS														"			
VEHICLE NUMBER		NEW CARD NUMBER		BLANKS														"							
"		BLANKS															"								
BLANKS										LINE #		ORIGIN		BLANKS											
BLANKS										"		"		"											
BLANKS										"		"		"											
SITE NUMBER		ANP #		BLANKS						"		"													
"		"		PUMP #		BLANKS						"		"											
BLANKS										"		"		"											
SITE NUMBER		ANP #		BLANKS						"		"													

Figure III-2A

III-5/III-6
Reverse Blank

WORD	BYTE																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
55	CHANGE FUEL TYPE IN TANK FILE		"		"		MONTH	DAY	HOUR	MIN	FUEL TYPE	"		0		3	"		"		"																	
55	CHANGE # TIMES ORDERED IN TANK FILE		"		"		"	"	"	"	"	# OF TIMES ORDERED	BLANKS		0		4	"		"		"																
55	CHANGE TANK CAPACITY IN TANK FILE		"		"		"	"	"	"	"	NEW TANK CAPACITY		0		5	"		"		"																	
55	CHANGE CUTOFF POINT IN TANK FILE		"		"		"	"	"	"	"	NEW CUTOFF POINT		0		6	"		"		"																	
55	CHANGE OPENING BALANCE IN TANK FILE		"		"		"	"	"	"	"	NEW OPENING BALANCE		0		/	"		"		"																	
55	CHANGE REORDER POINT IN TANK FILE		"		"		"	"	"	"	"	NEW REORDER POINT		FIELD # 0		9	SITE NUMBER		TANK #		BLANKS																	
61	OPERATOR ACQUISITION		"		6		1	"	"	"	"	CARD NUMBER		OPERATOR SS NUMBER		OPERATOR COMMAND		INITIAL																				
63	CHANGE OPERATOR OR STATUS TO 'ON' OR 'OFF'		"		6		3	4	"	"	"	"	"		"																							
65	CHANGE OPERATOR SS# IN OPERATOR FILE		"		6		5	"	"	"	"	"	"		"		BLANK		ITEM CODE 0		2		NEW OPERATOR															
65	CHANGE OPERATOR COMMAND IN OPERATOR FILE		"		"		"	"	"	"	"	"	"		"		"		0		3		OPERATOR COMMAND															
65	CHANGE OPERATOR PVF STATUS IN OPERATOR FILE		"		"		"	"	"	"	"	"	"		"		"		0		4																	
65	CHANGE NAME IN OPERATOR FILE		"		"		"	"	"	"	"	"	"		"		"		0		5		INITIAL															
65	CHANGE NUMBER OF CARDS ISSUED IN OPERATOR FILE		"		"		"	"	"	"	"	"	"		"		"		0		6		# OF CARD ISSUED															
67	REASSIGN OPERATOR TO A NEW CARD NUMBER		"		6		7	"	"	"	"	"	"		"		"		NEW CARD NUMBER																			
69	DELETE OPERATOR FROM FILE		"		6		9	"	"	"	"	"	"		"																							
10	OIL ISSUE		"		1		0	"	"	"	"	VEHICLE COMMAND	VEHICLE NUMBER MASTER CARD # PVF CARD#		OPERATOR SS NUMBER		SITE NUMBER		SITE TANK #		FUEL TYPE		TANK PUMP #															
27	DIPSTICK READING		"		2		7	"	"	"	"	DIPSTICK READING (VALUE X 10)		MASTER CARD NUMBER		SITE NUMBER		SITE TANK #		FUEL TYPE		TANK PUMP #																
31	MANUAL FUEL RECEIPT FROM THE KEYBOARD		SEQUENCE NUMBER		TRAN TYPE 3		1	MONTH	DAY	HOUR	MIN	GALLONS OF FUEL RECEIVED X 10		BLANKS		SITE NUMBER		SITE TANK #		FUEL TYPE		TANK PUMP #																
99	FILE HEADER		ZEROS		9		9	NUMBER OF TRANSACTIONS		MONTH		DAY		YEAR		BLANKS																						

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TOR SS NUMBER																SITE NUMBER																SITE TANK #																FUEL TYPE																TANK PUMP #																VEHICLE CLASS																OPERATOR COMMAND																QUARTS X 10																BLANKS															
SITE NUMBER																SITE TANK #																FUEL TYPE																TANK PUMP #																BLANKS																																																																															
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Figure III-2B

III-7/III-8
Reverse Blank

The Series 1 collects and stores all the data generated by the system and provides output for the other system components on command. Data are stored on hard disk and are written off to diskettes weekly. One diskette holds approximately 1 week's data.

2. Sixty-eight Remote Terminals, 1 in each of the 68 pumping stations/precincts. The Remote Terminals activate the pumps and feed data to the Series 1, where the data are stored on disk.

3. Two Model 43 Teleprinters 4320KSR (Keyboard Send-Receive) with EIA-RS232 Interface Pin Feed Catalog No. 4320 AAK. One KSR, designated "KSR Log," logs transactions that come in from the Remote Terminals. It has the capability to log all transactions, to log no transactions, or to log transactions selectively, e.g., by location only. The other KSR, designated "KSR Control," is used (a) to update the operator, vehicle, and tank pump files, and (b) to receive all exception/error conditions, i.e., reorder instructions, bad transactions (sounds an audible alarm), intrusion of the Remote Terminals (also sounds an audible alarm). Updates (file changes) go directly to disk, not on the KSR Log.

4. One IBM 4973 Model 1 Printer. Prints system reports on command of the operator of the KSR Control.

5. Two Black and White ADM-3A Terminals with 1920 characters (24 lines with 80 characters per line) designated "CRT." One CRT is in the office of the director of NYCPD Motor Transport Division, the other in the Fuel Monitoring System Office (Control Center). They are used for status inquiry into the system.

6. One Intecolor Model 8001 Color Data Terminal, designated "C-CRT." The color CRT is in the Control Center, and is used to monitor the system. The following data are displayed on the monitor simultaneously for all 68 pumping stations:

Site Location

Number of Tanks at Each Location (1 or 2)

Number of Pumps for Each Tank (1 or 2)

Capacity of Each Tank

Balance in Each Tank

Tank/Pump Status:

O = On-Line

S = Taken Off-Line by System (Tank Out of Gas)

M = Manually Taken Off-Line at Control Center.

The site locations are listed in series, corresponding to the 10 dedicated telephone lines that service them. Status and activity are color coded: Green = OK (station operating normally); Yellow = Alert (tank approaching reorder point); Red = Off (station off-line); Blue = Tank Size (capacity); Flashing Lights = Attention.

7. Ten Dedicated Telephone Lines. The dedicated phone lines are necessary to the operation of an on-line system. On-line operation was chosen, over a dial-up system, because the Remote Terminals could not store enough data (20,000 operators/4,000 vehicles) for dial-up. NYCPD required that the system provide fueling for any operator/vehicle at any pumping station; therefore, it is necessary, for instance, to be able to invalidate lost cards as soon as possible.

8. Actuator Cards. These are four magnetic-stripe encoded cards available to the system. The cards are of credit-card quality, size (2 x 3½ inches), and appearance, and are color-coded to distinguish them from each other.

a. Standard Cards. Two magnetic-stripe encoded cards are required to record all system transactions--dispensing, delivery, in-ground inventory, and oil-add. In addition, for the dispensing function, proper sequential use of the cards is necessary to activate the fuel pump. (The operator card must be inserted first in every case.) The two standard cards are designated Operator Card (figure III-3) and Vehicle Card (figure III-4).

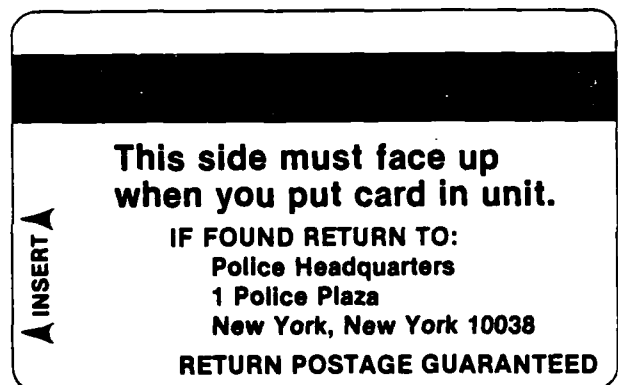
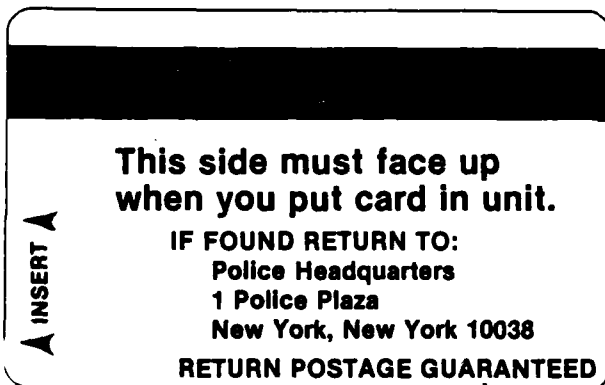
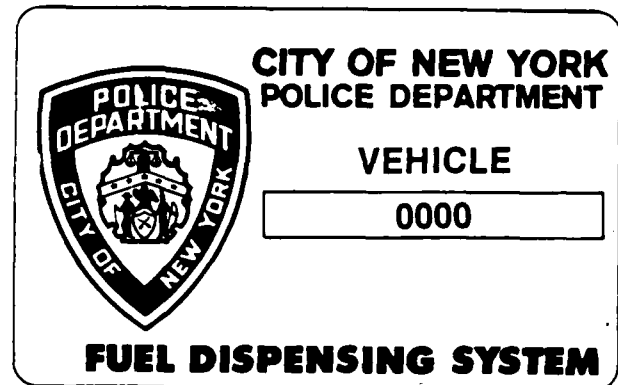
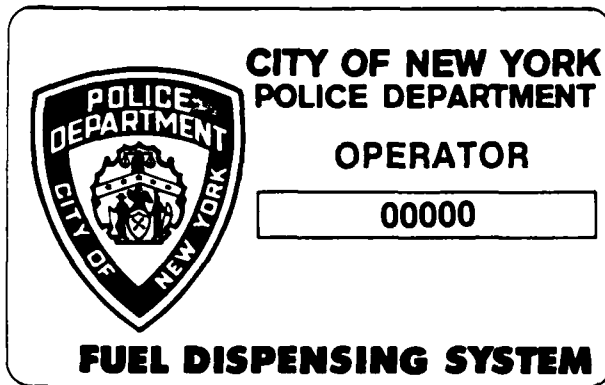
b. Master Card. In addition to the two standard cards (Operator and Vehicle), there is a Master Card (figure III-5), which is used to:

- (1) Record fuel delivery transactions
- (2) Record in-ground inventory transactions
- (3) Substitute for missing Vehicle Card
- (4) Allow dispensing of fuel to small equipment that has no Department identification (lawn mowers, snow blowers, etc.)
- (5) Fuel scooters and motorcycles.

One Master Card is located at each of the 68 dispensing locations. It is assigned to the Precinct station house as opposed to being assigned to an individual or a vehicle. Use of the Master Card is limited to the above functions, and must always be used in conjunction with an Operator Card. In performing any of these functions at the Octane Control Unit (terminal), the thumbwheel dials are used to record the type of transaction and the other data required to complete the transaction. (See Computerized Fueling Instructions, figure IV-5.)

c. Private Vehicle Fueling Card. In addition to the Master Card located at each of the 68 fueling locations, there is also a Private Vehicle Fueling Card (figure III-6) located at and assigned to the station house.

The Private Vehicle Fueling Card is used by Department members who have been authorized to use private vehicles in special cases. Since there are no private vehicles resident in the Fuel Control System Vehicle file, there is no need for an operator to identify the vehicle or the mileage of the vehicle. Therefore, when using the Private Vehicle Fueling Card, the operator is required to dial in the last four digits of his/her social



Operator Card
(White Bkgd/W/Blue Type)

Issued to all department motor vehicle operators.

Must be used for each and every transaction in conjunction with the appropriate vehicle, master, or private vehicle fueling card.

Vehicle Card
(Blue Bkgd/W/White Type)

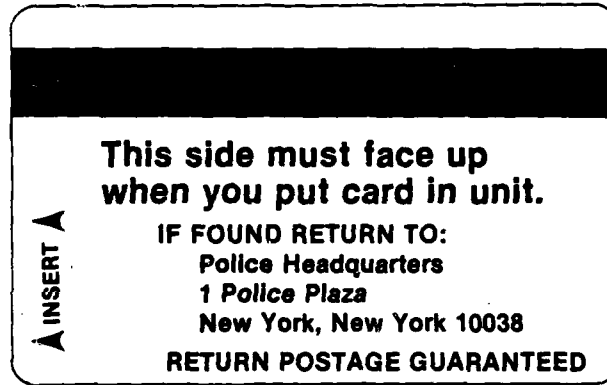
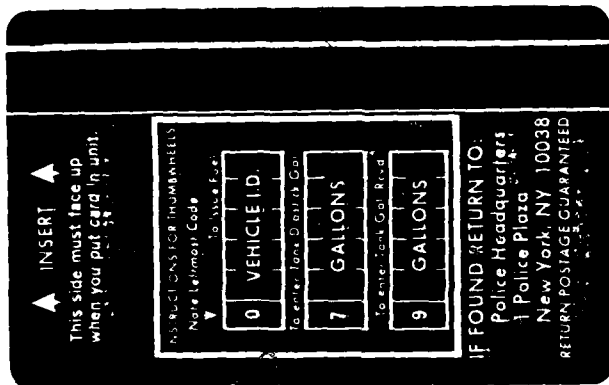
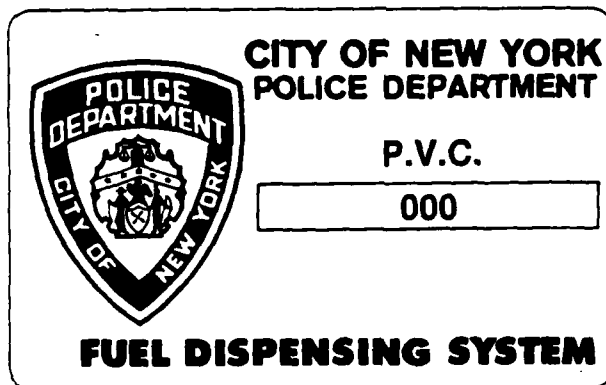
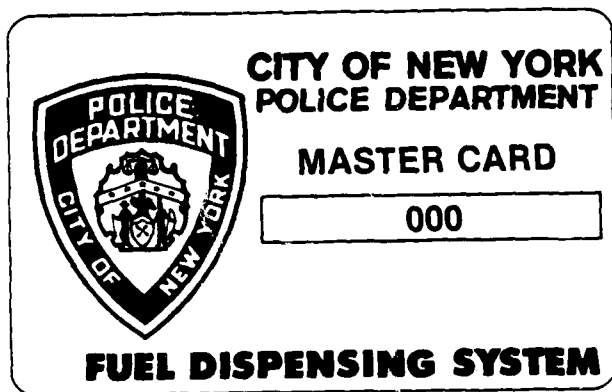
Maintained in all department vehicles except 2 wheel scooters and motorcycles.

Used for all vehicle dispensing functions.

Gallon limit is the vehicle tank capacity.

Figure III-3

Figure III-4



Master Card (Green)

One card issued to each fueling location;
maintained in Station House.

1. Substitute for missing vehicle card
2. Fuel equipment with no department identification
3. Perform in-ground inventory
4. Record fuel deliveries

Gallon limitation and thumbwheel settings
vary depending upon use.

Figure III-5

Private Vehicle Fueling Card (Red)

One card issued to each fueling location;
maintained in station house.

Dispensing fuel to private vehicles only.

Thumbwheel switches require 00 plus 4 low
order digits of employees social security number.

10 gallon limitation.

Figure III-6

security number with the variable thumbwheels. These digits are checked against the operator's personal card to ensure that authority for private vehicle fueling has been granted to the individual. Each private vehicle fueling transaction is limited to 10 gallons.

d. Card Use. On each card, the magnetic stripe is encoded with the actuator card number that is imprinted on the face of the card (operator card is a 5-digit sequential number; vehicle card is a 4-digit sequential number). A security code assigned by the vendor, unique to the NYCPD Fuel System, is also encoded on the cards to preclude similar credit cards from being accepted in the system.

The first consideration regarding the actuator cards was: did NYCPD want a one-card system or a two-card system? A one-card system would identify the vehicle being fueled, but it would not identify the operator of the vehicle. NYCPD management elected a two-card system. The next consideration was the type of card to be used. The choice was between a Hollerith-coded punched card or the magnetic-stripe card. Extensive testing was performed on both; they were

(1) Soaked in water and placed in a freezer for an extended period of time

(2) Bent and mutilated

(3) Smeared with grease, oil, and grime.

The results of the testing indicated that, for use in the NYCPD system, the magnetic-stripe card was far superior. In addition, considerable weight was given to the security factor. The magnetic-stripe card is difficult to duplicate, which is one of the reasons for its exclusive use by the American Banking Association.

The next consideration was the data to be encoded in the magnetic stripe. Since the decision was made that it would be a two-card system, and because of the high volume of active cards required (25,000 operator and 4,000 vehicle), it was decided to encode the cards such that they could be reissued. To have specific identification data (such as a social security number) magnetically encoded in the operator card would preclude the use of that card again should the original assignee retire, etc. Therefore, in the interest of providing the capability to reissue cards, it was decided that the magnetic-stripe coding would contain a sequential number that would be assigned randomly but that would be associated with an individual member in the computer file. This same logic applied also to the vehicle actuator cards.

The final consideration for the two standard cards was the card design. This was addressed in the system specifications to the extent that NYCPD would provide the successful vendor with the card design and wording within 10 days after contract award.

9. Vehicle Card Holders. Heavy-duty plastic pouches (2½ x 3 inches) were supplied by the Vendor to hold the vehicle cards in each Department vehicle. They were backed with an adhesive tape for attachment to the

TR 6567-II

dashboard, but the tape was not strong enough to support constant removal of the cards, so the pouches were bolted to the dashboard.

D. REPORTS

The following reports are provided by the system (examples appear in appendix G):

Index Reports

Operator Index Listing

Vehicle Index Listing

Operator File Reports

Single Record By Card Number

Range By Card Number

List All Records

One Record By Operator Identification (SSN)

Private Vehicle Fueling By Command (Precinct)

All Within Command

List All Operators Off-Line

Equipment File Reports

Single Equipment By Card Number

Range Of Equipment By Card Number

Single Equipment By Number

List All Equipment

Equipment Within Command

Equipment Within Classification (Make, Model, Year)

List Odometer Range By Classification

Transaction File Reports

All Transactions

All Transactions For a Given Date

All Transactions By Equipment Number

All Transactions By Site Location

All Transactions By Specific Fuel Type

All Transactions By Vehicle Classification

All Transactions By Operator Identification

By Transaction Type (26 Types):

Fueling, Odometer Within Range

Fueling, Low Odometer

Fueling, High Odometer

Private Vehicle Fueling

Oil Entry

Master Card Fueling

Inventory Reading

Manual Fuel Entry

Manual Fuel Receipt

Acquire Vehicle

Put Vehicle Online

Put Vehicle Offline

Change Field, Vehicle File

Change Odometer Reading

New Card Number, Vehicle

Delete Vehicle

Put Pump, Tank, Terminal, Line, Master Card Online

Put Pump, Tank, Terminal, Line, Master Card Offline

TR 6567-II

Change Field In Tank/Pump File

Acquire Operator

Operator Online

Operator Offline

Change Field In Operator File

New Card Number, Operator

Delete Operator

Fuel Receipt

Special Report

Private Vehicle Fueling Reports By Command (Precinct)

For additional information see appendix G, System Reports; appendix I Operations Manual; the Index of File Inquiries; and/or call NYCPD Fuel Control Center (212) 476-7524.

Section IV
SYSTEM IMPLEMENTATION

A. SCHEDULE

The Implementation Schedule for the NYCPD Fuel Monitoring System is shown below. Since it is intended only as a guide for use in replicating the project, the time allocation segment has been eliminated. The overall responsibility for system implementation was vested with the NYCPD Motor Transport Division Fuel Control Center

<u>TASK</u>	<u>RESPONSIBLE</u>
1. Build Vehicle File	NYCPD Motor Transport Division
2. Build Operator File	NYCPD Motor Transport Division
3. Deliver Computer to San Antonio	E. J. Ward Inc.
4. Assemble and Test Central Processing Unit	E. J. Ward Inc.
5. Ship Phase I Terminals to N.Y.	E. J. Ward Inc.
6. Ship Pump Modification Kits to N.Y.	E. J. Ward Inc.
7. Ship File Builds to San Antonio	NYCPD Motor Transport Division
8. Install Phase I Terminals-- Queens	E. J. Ward Inc.
9. Test Phase I Software-- San Antonio	E. J. Ward Inc.
10. Develop Training Package	NYCPD Police Academy & NYCPD Motor Transport Division
11. Ship Phase II Terminals to N.Y.	E. J. Ward Inc.
12. Install and Test Telephone Lines	NYCPD Communications Division and New York Telephone Co.
13. Ship Phase II Pump Modification Kits to N.Y.	E. J. Ward Inc.
14. Revise Pertinent Orders	NYCPD Office of Management Analysis and Motor Transport Division
15. Ship Remaining Terminals to N.Y.	E. J. Ward Inc.

<u>TASK</u> (Cont'd)	<u>RESPONSIBLE</u> (Cont'd)
16. Ship Remaining Pump Modification Kits to N.Y.	E. J. Ward Inc.
17. Ship Actuator Cards to N.Y.	E. J. Ward Inc.
18. Install Bronx Terminals	E. J. Ward Inc.
19. Ship Spare Parts to N.Y.	E. J. Ward Inc.
20. Finalize Card Issue Procedures	NYCPD Motor Transport Division
21. Install Manhattan Terminals	E. J. Ward Inc.
22. Develop Operation Day Procedures	NYCPD Motor Transport Division
23. Train Users	NYCPD Motor Transport Division
24. Finalize Computer Manning	NYCPD Support Services Bureau
25. Finalize Maintenance Manning	NYCPD Support Services Bureau
26. Issue Pertinent Department Orders	NYCPD Office of Management Analysis
27. Issue Actuator Cards	NYCPD Motor Transport Division
28. Final Software Testing -- San Antonio	E. J. Ward Inc.
29. Install Staten Island Terminals	E. J. Ward Inc.
30. Ship Computer to N.Y.	E. J. Ward Inc.
31. Ship Associated Hardware to N.Y.	E. J. Ward Inc.
32. Initialize Computer and Associated Hardware	E. J. Ward Inc.
33. Install Brooklyn Terminals	E. J. Ward Inc.
34. Implement Staten Island	NYCPD and E. J. Ward Inc.
35. Implement Queens	NYCPD and E. J. Ward Inc.
36. Implement Bronx	NYCPD and E. J. Ward Inc.
37. Implement Manhattan	NYCPD and E. J. Ward Inc.
38. Implement Brooklyn	NYCPD and E. J. Ward Inc.
39. Train Operations Personnel	E. J. Ward Inc.

TASK (Cont'd)RESPONSIBLE (Cont'd)

40. Train Maintenance Personnel	E. J. Ward Inc.
41. Document System	W. J. McGrath, Margaret M. McNamara, NUSC

B. BUILDING THE FILES

The NYCPD Fuel Monitoring System has three Master Files resident in the IBM Series 1 Computer:

1. Operator File
2. Vehicle File
3. Tank/Pump File.

The data elements of these files had to be manually coded in the exact format required by the associated programs. File Build (Data Input) Sheets were supplied by the vendor for the Operator File (figure IV-1) and Vehicle File (figure IV-2), along with associated instructions and allowable coding (figures IV-3 and IV-4). NYCPD Control Center personnel coded the data, which were put into machine-readable language and entered in the Series 1 Computer by the vendor. The Tank/Pump File data were taken from the specifications.

1. The Operator File

The Control Center did not know which NYCPD personnel were authorized to operate Department vehicles, nor which had Command approval to use fuel in private vehicles. Accordingly, a memorandum was sent to each of the approximately 400 Commands requesting that they furnish that information to the Control Center by a specified cutoff date. At the same time, they obtained an alphabetical listing of all personnel from the Department's Management Information Systems Division. Upon receipt of those data elements, the file build process was initiated.

NOTE

The cutoff meant that adds, changes, or deletes to the Operator or Vehicle files would not be tracked after the established date. The Operator and Vehicle files were updated immediately prior to going operational. All Department Personnel Orders listing personnel changes and records on vehicle changes were collected daily and held until after the files were established and proofread.

When the coded input sheets were completed, they were forwarded to the vendor for entry into the Series 1 Computer.

As a matter of interest, there were some 18,300 operators coded in the initial Operator File Build. As anticipated, there was a surge in adding personnel after the first Borough's cards were issued.

Operator File Build Data Sheet

**E.J. Ward, Inc.
8801 Tradeway
San Antonio, Texas 78217
(512-824-7383)**

[illegible]

Fleet — New York City Police Dept. Mailed / / . Mailed By — Received / / Received By

Figure IV-1. Operator File Build Data Sheet

Vehicle File Build Data Sheet

[illegible]

Fleet: New York City Police Dept. Posted _____ Date / / Mailed / / Page _____

Figure IV-2. Vehicle File Build Data Sheet

Position 1 - Card Type
A constant "C"

Position 2 - Card Type
A constant "6"

Positions 3-7 - Assigned Actuator Card Number
This number will identify the operator actuator card assigned to the individual.

Position 8 - A constant comma.

Position 9 - A constant "E"

Positions 10-18 - The operator's Social Security Number.

Position 19 - A constant comma.

Position 20 - A constant "N"

Positions 21-29 - Surname of Operator

Position 30 - A constant comma.

Position 31 - A constant "I"

Position 32 - The Operator's first initial.

Position 33 - A constant comma.

Position 34 - A constant "B"

Positions 35-37 - Blank

Position 38 - A constant comma.

Position 39 - A constant "C"

Positions 40-42 - Command
A three digit numeric field that identifies the assigned command of the Operator.

Position 43 - A constant comma.

Position 44 - A constant "S"

Position 45 - Status Code
A numeric digit defining the Operator status as follows:
0 = Regular Fuel Authority
1 = Private Fuel Authority

Figure IV-3. Instructions for Operator Data Sheet

- Position 1 - Card Type
A constant "C"
- Position 2 - A constant zero ("0")
- Positions 3-6 - Actuator Card Number
This number will identify the actuator card number and will be four (4) numeric digits-0001 to 8000.
- Position 7 - A constant comma.
- Position 8 - A constant "V".
- Position 9 - A constant one ("1").
- Position 10 - A constant zero ("0").
- Positions 11-14 - NYCPD Vehicle Number
This is a five (5) digit number assigned by NYCPD to identify the vehicle. Numbers are 00001 to 99999.
- Position 15 - A constant comma.
- Position 16 - A constant "K".
- Positions 17-18 - Odometer check code.
Identifies the manner in which the computer handles checking the vehicles odometer as follows:
- Code 00 - No checking and zero out the odometer field in the transaction. (Normally used for vehicles without odometers).
 - Code 01 - Capture thumbwheel settings with no odometer checking.
 - Code 03 - Issue no fuel unless new odometer reading is entered. (Offers tight control over user ODOMETER entries and produces constant ODOMETER ERROR until entered correctly.)
 - Code 07 - Produce ODOMETER ERROR if new ODOMETER is not within miles limit of old ODOMETER reading on first try. Issue fuel on second entry regardless of ODOMETER reading and flag transaction according to the condition; (high or low).
Flag 0 = No Error
Flag 1 = Odometer entry low
Flag 2 = Odometer entry high.
- Position 19 - Constant comma.
- Position 20 - Constant "M".

Figure IV-4. Instructions for Vehicle Data Sheets

Positions 21-23 - Miles Limit

The maximum number of miles from old odometer reading without the computer issuing an odometer error. (Normally the maximum miles the vehicle can travel before refueling)

Position 24 - A constant comma.

Position 25 - A constant "T".

Position 26 - Fuels allowed (Primary and Secondary)

The coded primary fuel type allowed for this vehicle as shown in Fuel Types table below.

Position 27 - A constant comma.

Position 28 - A constant "T".

Position 29 - Secondary Fuel Type

The alternate fuel type authorized for this vehicle as shown in the table below.

Fuel Type Table

0=No fuel type	6=Propane Fuel
1=Regular Gasoline	7=Reserved
2=Unleaded Gasoline	8=Reserved for Oil
3=Premium Gasoline	9=All above Fuels
4=Reserved	
5=Diesel Fuel	

Position 30 - A constant comma.

Position 31 - A constant "H".

Positions 32-34 - Vehicle Command

This is a three (3) digit numerical field that identifies the coded NYCPD Command to which this vehicle is assigned.

Position 35 - A constant comma.

Position 36 - A constant "C".

Positions 37-39 - Vehicle Classification

This is an alphameric field that identifies the make, model, and year of the vehicle. (See NYCPD Vehicle Classification Code Table page _____).

Positions 40-42 - Vehicle Tank Capacity

A three (3) digit numeric field that identifies the maximum number of gallons that this vehicles tank will hold.

Figure IV-4. (Cont d) Instructions for Vehicle File Build Data Sheets

2. The Vehicle File

The NYCPD Motor Transport Division is responsible for all vehicle acquisitions, assignments, and history records. The Control Center secured the records from Motor Transport and posted the data to the Vehicle File Build Data Sheets (figure IV-2) in accordance with instructions (figure IV-4). The cutoff for the Vehicle File was the date the Data Sheets were forwarded to the vendor for entry into the Series 1 Computer. Adds, changes, and deletes received after the cutoff were held until the Series 1 was delivered to New York, and then were entered into the Computer by Control Center personnel.

3. The Tank/Pump File

There was a very limited number of records for the Tank/Pump File. Therefore, a list was submitted to the vendor, and the vendor prepared the file build.

When the Series 1 Computer and associated hardware were shipped from San Antonio to New York and made operational, the first step was to run a complete listing of the three files (Operator, Vehicle, and Tank/Pump). These files were then proofread: the Operator File against the alphabetical listing and posted input sheets, the Vehicle File against the source documents posted and input sheets. The error rate was considerably higher than anticipated but, considering the volume of records and the fact that several individuals did the posting and several others keyed the posted data into the computer, the final result was a very high confidence-level in the accuracy of the data.

Accuracy of the data files was of prime importance. The benefits accrued from exhaustive data checks far outweigh the one-time effort in initiating a new system of this complexity.

C. INSTALLATION OF TERMINALS AND TELEPHONE LINES

Detailed instructions for the vendor for installation of the remote terminals are contained in the System Specifications, appendix F. Specifications for the telephone lines are in the Service Guide, appendix J, page I-2, item 3, and page I-5.

From an overall project administration standpoint, the following comments are worth considerable emphasis:

The remote terminals must be installed first, then the telephone equipment, though the phone lines should be ordered well in advance of the anticipated dates required. It is recommended that a project leader establish contact with a phone company representative, and that both have considerable input to arranging orderly installation of terminals and lines. Otherwise, there is a risk that a company serviceman will arrive at a site prior to installation of the terminal, which can be likened to building a house and having the roofer arrive first. Moreover, various foremen are in charge of areas defined by the telephone company, and these areas will not necessarily conform to the structure of NYCPD.

D. PERSONNEL

The Fuel Control Center operates 7 days a week, 24 hours a day. It is staffed by a combination of uniformed and civilian personnel, but more important than the mix is the fact that they are an extremely competent team selected in advance of equipment installation. In fact, several members have been assigned to the project from conception through file build to implementation. The pilot installation provided them with the opportunity to become knowledgeable in the operation of an automated fueling system while it was still a small operation (three pumping stations on Staten Island). They learned to deal with the problems and inadequacies of the pilot, and were able to contribute to the development of the total system specifications. The extensive training resulting from their early involvement was essential. In addition, members of the team are familiar with the Department structure and user needs.

It would be hard to overemphasize the need for competent personnel, in a fuel control center, in sufficient numbers for data gathering and checking, responding to inquiries, maintenance, and supervision. Among other things, it makes the transition smoother.

NOTE

It may not be necessary for Control Center personnel to have previous experience in data processing. It is desirable however (and worked well in this case) that they be interested in the project and the system, and the professional challenge it presents. It also is useful for the user project leader to have some input into the selection of other personnel in the Control Center.

E. REVISION OF DEPARTMENT PROCEDURES

NYCPD fuel dispensing procedures were revised by Interim Order No. 9 entitled "Computerized Fuel Dispensing System," dated March 27, 1981. A copy is in appendix C.

F. TESTING AND BACKUP PROCEDURES

The following procedures were developed:

TEST PROCEDURES

1. Open terminal--Turn to Automatic
 - a. Did screen turn green?
 - b. Did intrusion alarm register?
 - c. Did transaction register?

2. Test Dispensing Transaction
 - a. Valid Dept. Vehicle--Pump 1
 - b. Valid Dept. Vehicle--Pump 2
 - c. Valid Dept. Vehicle--Pump 3 (fuel error light)
 - c. Valid Dept. Vehicle--Pump 4 (fuel error light)
 - e. Valid Vehicle Card--Wrong Fuel Type
 - f. Valid Oil Transaction
3. Test Private Vehicle Card Transaction (RED MASTER)--00(SSN)
 - a. Using Valid SSN
 - b. Using Invalid SSN
 - c. Try to exceed 10 gallons
4. Test Equipment with no Dept. I.D. Transaction (GREEN MASTER)-009999
 - a. Valid 9999 Transaction
 - b. Try to exceed 5 gallons
5. Test In-Ground Inventory Transaction (GREEN MASTER)-70XXXX
 - a. Valid Dip Transaction
 - b. Exceed Tank Capacity
6. Test Fuel Delivery Transaction (GREEN MASTER-90XXXX
 - a. Valid Delivery
 - b. Exceed Tank Capacity
7. Test Missing Vehicle Card Transaction (GREEN MASTER)
 - a. Valid Dept. Vehicle Number
 - b. Invalid Dept. Vehicle Number
 - c. Valid Vehicle--Wrong Fuel Type
8. Test Two-Wheel Scooter Transaction (GREEN MASTER)-009xxx
 - a. Valid Transaction
 - b. Exceed 2 gallons
 - c. Valid Transaction--Wrong Fuel Type

9. Test Department Motorcycle Transaction (GREEN MASTER)-0089xx
 - a. Valid Transaction
 - b. Attempt to exceed 5 gallons
 - c. Wrong Fuel Type
10. General
 - a. Address Correct
 - b. Blue Oil Label On Terminal
 - c. Pumps Labeled 1 and 2
 - d. Fill Caps Identified 1 and 2

MANUAL OVERRIDE PROCEDURE

The Computerized Fuel Dispensing System being implemented in the Department uses two actuator cards, similar to credit cards, to obtain gasoline. In the event of a system failure that prevents the dispensing of fuel automatically, it may be necessary to put the affected location(s) in "MANUAL OVERRIDE." Pumps will then be locked and fueling transactions will be recorded in gasoline receipt books (MT 9), which will be maintained at each location.

When a failure condition occurs, a supervisor from that location will notify the Fuel Control Center by telephone (476-7524). The Fuel Control Center will determine the extent of the problem. If it is necessary to put that location on manual override, the Fuel Control Center will either dispatch personnel or notify the Patrol Borough concerned to make the computer terminal key available to the fueling site.

After the problem has been corrected, Fuel Control personnel will collect the information recorded on the MT 9 for entry into the computer, and will return the computer terminal to automatic fueling.

G. TRAINING

There are three distinct groups of individuals who must be trained in operation of a fuel control system:

1. Users in the field
2. Operating personnel in the control center
3. Equipment repair personnel.

1. Users in the Field

This group is all-inclusive. Everyone must be trained in use of the cards and operation of the terminal and fuel pumps--from Deputy Commissioners and Chiefs to Police Officers and "Rookies." And this group includes, of course, groups 2 and 3 mentioned above. NYCPD used a multifaceted training approach that included film, flip charts, instruction cards, etc.

1.a. Training Film. A training film was prepared by the NYCPD Police Academy Video Production Section to instruct all police officers on proper fueling procedures. A test terminal in the Control Center, which is cable-connected to the main computer, proved to be very useful in this instance and in others, which will be discussed later.

The video production people came to the Fuel Control Center at the Motor Transport Division to develop the videotape production. They went through the procedures with Control Center personnel using the test terminal, and then discussed methods of getting the information to Department personnel. The issues were:

- What is the message?
- How do we construct the message?
- How do we deliver the message?

The Control Center had to decide which elements were most important. They wanted four transactions shown:

- (1) Fueling a department vehicle
- (2) Fueling a department vehicle when the vehicle card is missing
- (3) Fueling a private vehicle
- (4) Receiving a fuel delivery.

However, the problem associated with that much material was time. The video production people knew from experience that the attention span of the audience was 5 to 7 minutes. The decision then was made to proceed with a film of about 5 minutes.

The completed film (of 5-minutes duration) communicated the following message:

- (1) It showed the old way of fueling a vehicle--get the MT 9 book and fuel pump keys, or if they are misplaced, find them; go out to the station; unlock the pump; pump fuel; make book entries; lock the pump; return the book and keys.
- (2) Then it showed the new fueling system--a standard dispensing transaction using two cards, pump-selection, entry of odometer reading; if an error light appears, correct the error and start over from Step 1; if there is still a problem, call 476-7524 (Control Center phone number) for assistance, and trained personnel will talk you through the procedure.

Each precinct has three tours of duty a day (midnight to 8 a.m., 8 a.m. to 4 p.m., 4 p.m. to midnight), 7 days a week. There is a training session before each tour during which the platoon receives information and instructions on changes of procedure and major events in the precinct (rash of muggings, parades, homicide investigations, etc.). There is a video-cassette player at every site, and the Control Center arranged for the fuel dispensing film to be shown at the training sessions before each tour for 6 weeks, beginning in October 1980 (the training cycle for new procedures is 6 weeks). In that period of time it was certain that every officer would see the film at least once, taking into account vacations, sick leave, and temporary assignments.

1.b. Introduction to the System for Department Management. A document was prepared entitled, "An Introduction to the Department-Wide Automated Fuel Monitoring System, March 1980" (see appendix H). While the total system was being installed, Sergeant Kiernan and Officer Hamel made presentations to groups of Chiefs, Borough Commanders, and Captains to introduce them to the system. They used a 24 x 36 inch flip chart and provided an 8½ x 11 inch handout of the chart to each attendee.

The document explains the study, problems noted, benefits to the users, system configuration, and data output. The introductory sessions eliminated surprise at the management level when technicians came to the precincts to install telephone lines and terminals.

1.c. Vehicle Operator Instructions and Training. Figure IV-5, Computerized Fueling Instructions, was prepared as a training guide for vehicle operators. The gold-colored sections refer to fueling of department vehicles:

- (1) Far left: vehicles with both vehicle and operator card available.
- (2) Far right (three columns): vehicles with cards missing (cards are not issued for two-wheel scooters and motorcycles because of difficulty of maintaining them in those vehicles).

Note that the only difference in these instructions is the odometer entry, which allows the computer to identify any nonstandard transaction. (For definition purposes here, a "standard" transaction is the fueling of a vehicle that has an assigned card.)

The white columns refer to authorized private vehicle fueling, equipment with no identification number (e.g., snow blowers), in-ground fuel tank inventory, and fuel delivery. Here again, the major difference is in the odometer entry.

Directions for adding oil to vehicles and a list of problems and solutions also appear on the instruction sheet.

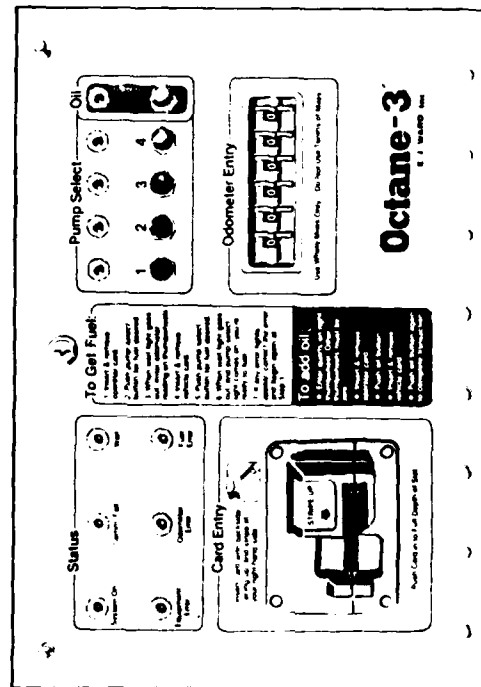
It is very important to emphasize that the final instruction design and wording were arrived at with total participation by all members of the project staff: the NUSC project leader, assistant, and graphic artist and the Fuel Control Center leaders and staff, as well as other user representatives. Mechanics from the Motor Transport Division and other Department

Status Panel: If Green System Light is NOT On — Call 476-7524

If 'Error' Light Appears See 'Problems'

Missing Vehicle Card

Step	DEPARTMENT VEHICLES	AUTHORIZED PRIVATE VEH.	EQUIPMENT WITH I.D.#	IN-GROUND INVENTORY	RECORD FUEL DELIVERY	2 WHEEL SCOOTERS	DEPARTMENT MOTORCYCLES
1 CARD ENTRY	Have odometer reading plus operator and vehicle cards. Insert operator card. Remove smartly.	Get red 'P.V.' card from station house. Insert operator card. Remove smartly.	Get green master card from station house. Insert operator card. Remove smartly.	Get green master card from station house. Insert operator card. Remove smartly.	Get green master card from station house. Insert operator card. Remove smartly.	Get green master card from station house. Insert operator card. Remove smartly.	Get green master card from station house. Insert operator card. Remove smartly.
2 PUMP SELECT	Push black button for pump desired.	Push black button for pump desired.	Push black button for pump desired.	Push black button for pump desired.	Push black button for pump desired.	Push black button for pump desired.	Push black button for pump desired.
3 STATUS	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.
ODOMETER ENTRY	Enter odometer reading — round off to nearest whole mile (if mileage reads 0000000000 enter 0000000000).	Enter last 4 digits of your Soc. Sec. # (if it is 000-40-3271 enter 0000000000).	Enter 70 then # of gals measured (if # of gals reads 2200 enter 0000000000).	Enter 90 then # of gals measured (if # of gals reads 1210 enter 0000000000).	Enter 00 then 3 digit vehicle I.D. # (if I.D. is 4276 enter 0000000000).	Enter 00 then 3 digit vehicle I.D. # (if I.D. is 4276 enter 0000000000).	Enter 000 then 3 digit vehicle I.D. # (if I.D. is 4276 enter 0000000000).
4 CARD ENTRY	Insert vehicle card. Remove smartly.	Insert red 'P.V.' card. Remove smartly.	Insert green master card. Remove smartly.	Insert green master card. Remove smartly.	Insert green master card. Remove smartly.	Insert green master card. Remove smartly.	Insert green master card. Remove smartly.
5 PUMP SELECT	Push same pump button as in step 2.	Push same pump button as in step 2.	Push same pump button as in step 2.	Push same pump button as in step 2.	Push same pump button as in step 2.	Push same pump button as in step 2.	Push same pump button as in step 2.
6 STATUS	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.	Wait until 'Wait' light goes out.
PUMP SELECT	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.	When pump light goes on — Go to pump.
FUEL PUMP	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.	Activate pump. Fuel up. Turn pump off.



To Add Oil	To Problems
Put oil in car and go to terminal.	STATUS PANEL
ODOMETER ENTRY: If # quarts used is 3 enter 0000000000.	Equipment Error: One of 2 cards is invalid or wrong card used. Repeat steps 1-6.
CARD ENTRY: Insert operator card.	Odrometer Error: Check odrometer reading. Repeat steps 1-6.
PUMP SELECT: Push oil button (blue panel).	Fuel Error: Wrong fuel pump button was pushed. Repeat steps 1-6.
CARD ENTRY: Insert vehicle card.	Fuel pump inoperative: Fuel pump inoperative or out of fuel. Call 476-7524.
PUMP SELECT: Push oil button again. When the 'Wait' light goes out — your business at the terminal is complete.	Communication Failure Light: Call 476-7524.
	Missing Operator Card: Call 476-7524 to report loss and get instructions.
	Missing Vehicle Card, P.V. Card and Master Card: Call 476-7524 to report loss. See instructions above.

To Add Oil	To Problems
Put oil in car and go to terminal.	STATUS PANEL
ODOMETER ENTRY: If # quarts used is 3 enter 0000000000.	Equipment Error: One of 2 cards is invalid or wrong card used. Repeat steps 1-6.
CARD ENTRY: Insert operator card.	Odrometer Error: Check odrometer reading. Repeat steps 1-6.
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	Missing Operator Card: Call 476-7524 to report loss and get instructions.
	Missing Vehicle Card, P.V. Card and Master Card: Call 476-7524 to report loss. See instructions above.

COMPUTERIZED FUELING INSTRUCTIONS

Figure IV-5

employees completely unfamiliar with the system were solicited for their opinions, and additional changes were made before the final design was settled on.

Instructions were printed in four sizes:

30 x 36 inch (posters)--10 copies

20 x 24 inch--250 copies

8½ x 11 inch--1,000 copies

4 x 8½ inch--50,000 copies

A series of training sessions was held for all Department personnel before the total system was put into operation. The sessions were conducted by Sergeant Kiernan and Officer Hamel and held at Headquarters, in each Borough Headquarters (several sessions in each to reach all officers), and at the Police Academy. The 30 x 36 inch instruction posters were used for illustration, and each attendee received one of the 8½ x 11 inch size sheets. In addition to the instructional content, personnel were given a short history of the project, the reasons for the decision to automate, and a statement of the benefits of the system to them in terms of time and effort saved.

- A copy of the 20 x 24 inch sheet was placed for reference in a prominent location in each of the 68 pumping locations.

- A copy of the 8½ x 11 inch instruction sheet was taped to the front of each terminal on the day each precinct became operational.

- Copies of both the 8½ x 11 inch and 4 x 8½ inch instructions were handed out as the operator cards were issued (precinct by precinct as the terminals became operational).

- The 4 x 8½ inch instruction was hole-punched to fit into the officers' "memo books" of that size. The memo books contain summonses and important information such as Miranda rights, warnings, and Spanish phrases.

1.d. Test Terminal in Control Center. A test terminal, hard-wired to the Central Processing Unit, is installed as part of the permanent equipment in the Control Center. Control Center personnel tested all actuator cards on the test terminal before they were issued. The test terminal also provides the ability to test the telephone lines and the component boards in the Control Center.

Operator cards were issued at the Control Center in the same sequence as the phased automating at the remote sites. Command training officers were requested to pick up the vehicle and operator cards for their respective Commands at the Control Center. At that time they were given a demonstration on the use of the cards, using the test terminal. While this involved only a small number of vehicle operators, the training officers were nevertheless able to instruct the rest of the police officers in their Commands.

1.e. Operation Day Assistants. On the day each fueling station became operational, an officer familiar with the operation of the system was sent to the precinct to assist precinct personnel with first-time use. The assistants announced the startup at the morning turnout (roll call--about 7 a.m.), and then assisted the officers in first-time fueling of their vehicles. Police officers were used for this function because it was felt that they would relate better to their peers. The high level of acceptance of the system reinforces the belief that this procedure substantially affected the efficient implementation of the system and should be an element of any user training plan.

2. Operational Personnel in the Control Center

It was the vendor's responsibility to provide training to the Control Center operating personnel. It is desirable that they understand the logic, know the functions of all the equipment and how to operate it, and how to develop reports and history files. Since the operating personnel had been assigned to the project well in advance of implementation of the total system, the vendor's task in this case was much easier. In addition, because they had been working on the project for some time, their understanding of the system allowed them to generate better questions during the vendor's training sessions. The Control Center operating personnel are now familiar with all components of the system.

Appendix I, Operations Manual, contains all computer commands used for this system.

3. Equipment Repair Personnel

Since NYCPD maintains its own system, it was necessary to train three groups of individuals in repair of the remote terminals:

1. Control Center personnel
2. Building maintenance personnel who had responsibility for repair of the pumps
3. Backup personnel from Motor Transport Division.

A vendor representative conducted the training session, which consisted of a classroom lecture and a demonstration using the test terminal in the Control Center. All three groups were trained to recognize problems and to institute the following procedures:

1. Testing to determine if the terminals were communicating with the Central Processing Unit (polling),
2. Replacing the:
 - a. Interface and Power Supply Board
 - b. Modem
 - c. Random Access Memory (RAM) Board

- d. Read on Memory (ROM)
- e. Central Processor Unit
- f. Modem Board.

Appendix J, NYCPD Automated Fuel System Service Guide, was prepared by the vendor, and sufficient copies were provided to be available to personnel as needed.

H. ISSUING CARDS

After the files were established using the previously mentioned cutoff date, they were proofed and then updated using the adds, changes, and deletes taken from Department personnel and vehicle records. It was a time-consuming task, but was well worth the effort in terms of user credibility for the system.

Typed labels were prepared and placed on the Operator Cards to identify the card with the authorized operator. Cards were issued Command by Command in sequence with the phased implementation. A computer printout was run for each Command and one individual from the Command picked up and signed for the cards. They were then distributed with paychecks and signed for by the authorized operators. Personnel orders were tracked continuously to determine movement between Commands.

Vehicle cards were issued to Command training officers, who placed them in the assigned vehicles.

I. PHASED IMPLEMENTATION

The size of the system clearly indicated going operational in stages. Therefore it was phased in Borough-by-Borough according to a predetermined schedule. There was slippage in the schedule because the task of getting ready to implement was greater than had been anticipated. As has been stated, the cross-checking of all elements was a lengthy procedure, but it did ensure a high level of confidence in the reliability of the system. A critique was held after each stage to determine if implementation could be done better for the next stage.

The implementation procedures included:

1. Checking cards against current personnel printouts by Command
2. Issuing cards about 10 days before implementation (The decision was made not to issue too far in advance, since items tend to be lost more easily if they are not in use.)
3. Installing vehicle card holders--done by maintenance shops
4. Reintroducing the training film at a daily training session 7-10 days prior to going operational at the precinct level
5. Coordinating with the fuel vendor so that tanks were filled to capacity

6. Testing the remote terminals 24-48 hours before going operational
7. Coordinating with the Borough Commanders so they would know what to expect and what was needed from them
8. Sending a directive via teletype to each command 8-12 hours before going on line, ordering the system into operation
9. Re-educating the team of Operation Day Assistants and providing them with terminal keys, instructions, manual override procedures, and transportation to their assigned precinct (It proved to be most advantageous to have knowledgeable individuals in place to demonstrate a "live" transaction for the first time.)
10. Assuring that there was an adequate team in the Control Center to answer the phones.

While some of these procedures might be eliminated, there is evidence that they contributed immeasurably to the success of the implementation phase and to acceptance of the system by the NYCPD users.

Section V

CONCLUSIONS

A. COSTS

The cost figures set out in Section I of this report are estimates in 1977 dollars, based on the best available information at the time of the study (mid-1977). It should also be noted that the projected savings were calculated on the basis of labor only, since those figures are easily auditable. All costs have escalated since that time--capital costs for system installation, labor, telephone line rental, and fuel. However, based on the 1977 estimates, NYCPD Management made the decision that an automated fuel system would be cost effective. It is even more so now, as reflected in the following figures compiled by NYCPD as of July 1981 with slightly over one-half of the fueling sites fully automated:

Startup and Capital Costs:	\$1,082,386
(includes labor, training, telephone line installation and rental)	
Annual Operating Costs:	\$638,858
(includes labor, system maintenance, telephone line rental)	
Estimated Savings Upon Completion:	<u>\$2,624,000</u>
(represents labor--uniformed and civilian personnel)	
Net Annual Benefits:	\$1,985,142
<u>Payback Time of Startup and Capital Costs:</u>	<u>Under 1 Year</u>

B. BENEFITS

The foregoing projected cost savings are a benefit in terms of labor dollars saved, and are auditable. The uniformed and civilian personnel represented by the figures have been reassigned to other essential duties. Other benefits are less quantifiable, but merit discussion here:

1. Central control of fuel ordering and dispensing ensures fewer sites out-of-fuel and for shorter periods.
2. Because of 1, there is less out-of-precinct travel, since personnel do not have to go from site to site looking for gas.
3. NYCPD has control of the total fuel operation, both for management and accounting purposes.

TR 6567-II

In its present form, the system produces 50 management reports (appendix G). However, the optimum configuration would be a system as originally designed (appendix E), the reporting capabilities of which would provide for complete fleet maintenance and management. It is hoped that a total system is in the future for NYCPD.

3

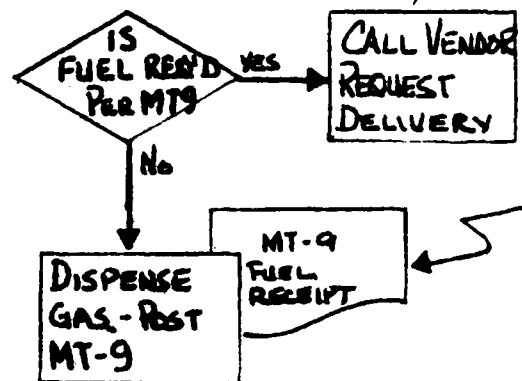
Appendix A

FLOW CHART,
EXISTING (AUGUST 1977) NYCPD
FUEL DELIVERY AND DISPENSING SYSTEM

VENDOR

COMMANDS

QUARTERMASTER



Post:
DATE, TIME
GALLONS DELIVERED
VEHICLE #
LICENSE #
ODOMETER
COMMAND
RECEIPTS.

Gen
SW
De

TELEPHONE

SCHEDULES
& MAKES FUEL
DELIVERY

2 TELEPHONE

APPROVED
FUEL TICKET

MAKES LOG
ENTRY - APPROVES
TKT FOR PAYMENT
FORWARDS TO
SUNBELT

- Post:

DATE, TIME, LOCATION

GALLONS DISPENSED

VEHICLE ID & MAKE

LICENSE NO.

ODOMETER READING

COMMAND

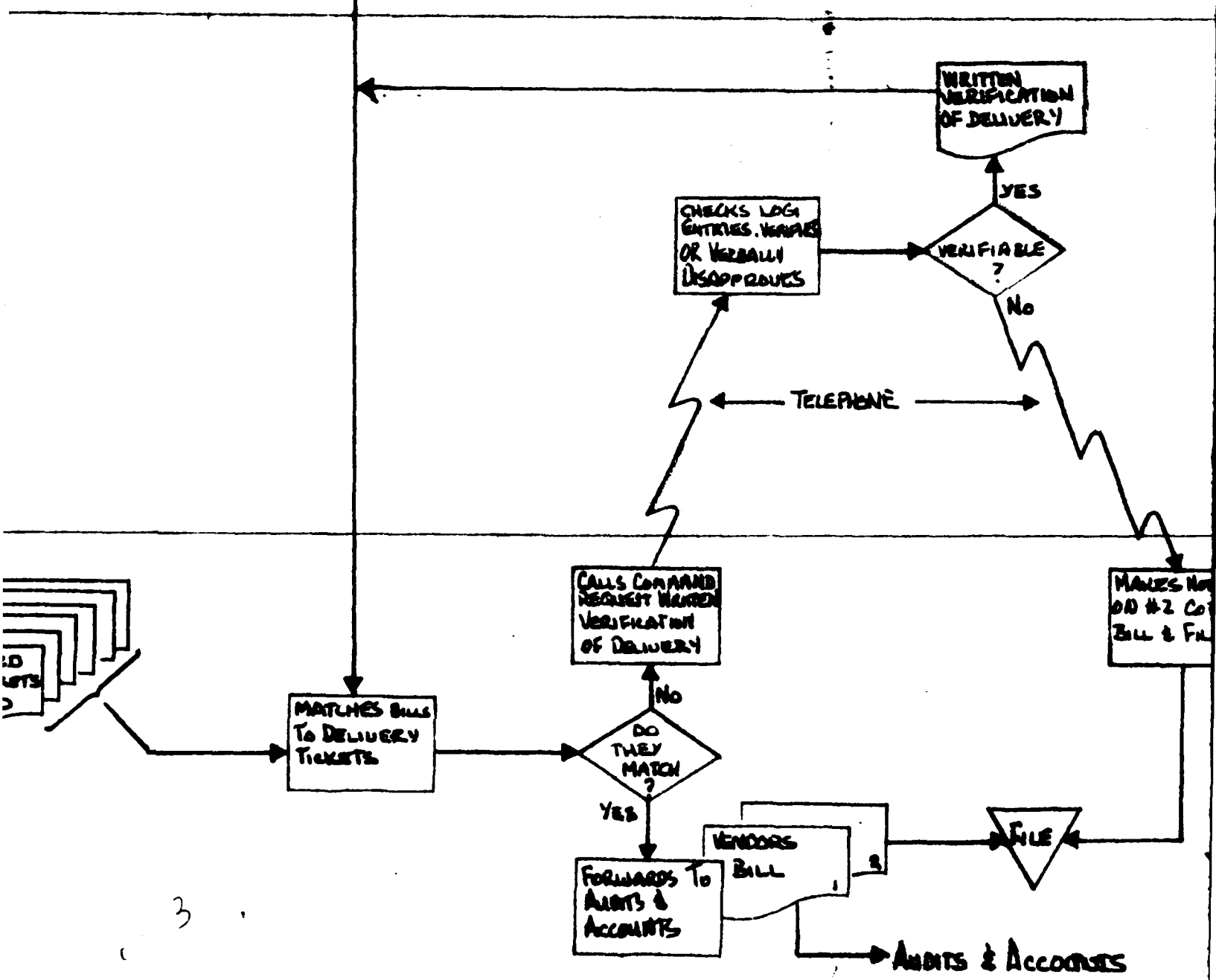
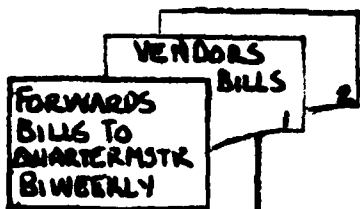
RECEIPTS, NAME, SIGNED COMMAND, & SIGNATURE

HOLDS PENDING
VENDORS BILL

APPROVED
FUEL TICKETS

Sort TKTs BY
BOROUGH,
COMMAND, &
DELIVERY DATE

APPROVED
FUEL TICKETS
SORTED



AUGUST - 1977

EXISTING
NYCPD
FUEL
DELIVERY & DISPENSING
SYSTEM

PREPARED BY:

WM. J. MCGRATH

TECHNOLOGY TRANSFER AGENT

NAVAL UNDERWATER SYSTEMS CENTER

NEW LONDON, CONN. 06320

&

SGT. FRANK STRYJEWSKI

NYCPD MOTOR TRANSPORT DIVISION

WOODSIDE, QUEENS, NEW YORK 11377

MAKES HISTORY
DD #2 COPY OF
BILL & FILES

Appendix B

FLOW CHART,
PROPOSED (SEPTEMBER 1977) NYCPD FUEL
MONITORING SYSTEM

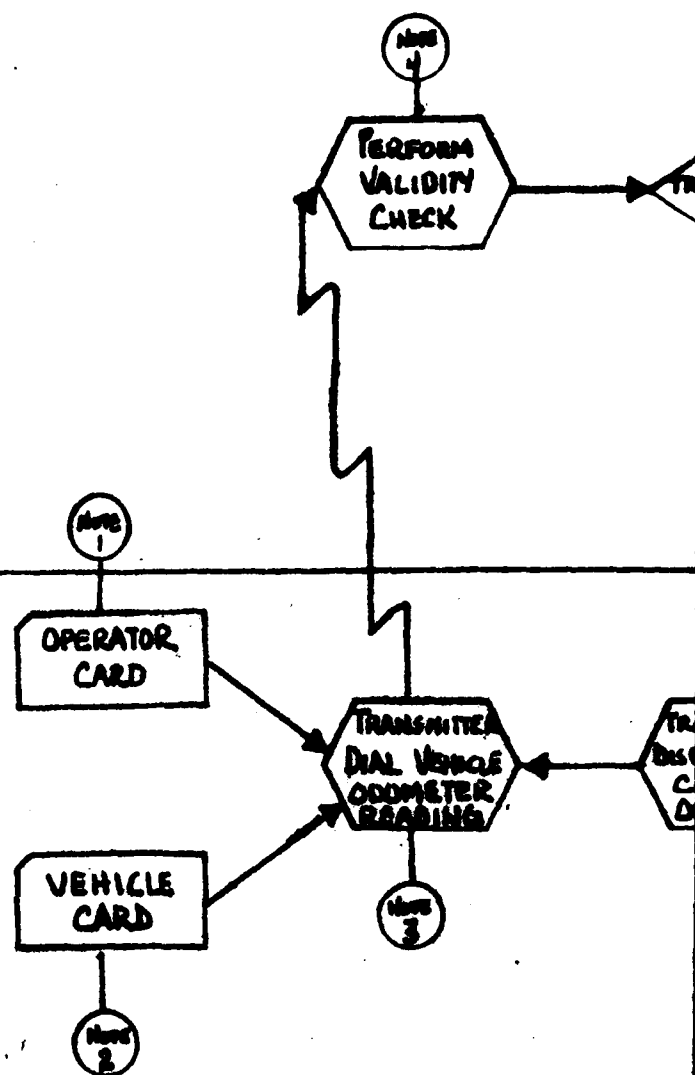
FUEL
CONTROL
CENTER

COMMANDS
(65)

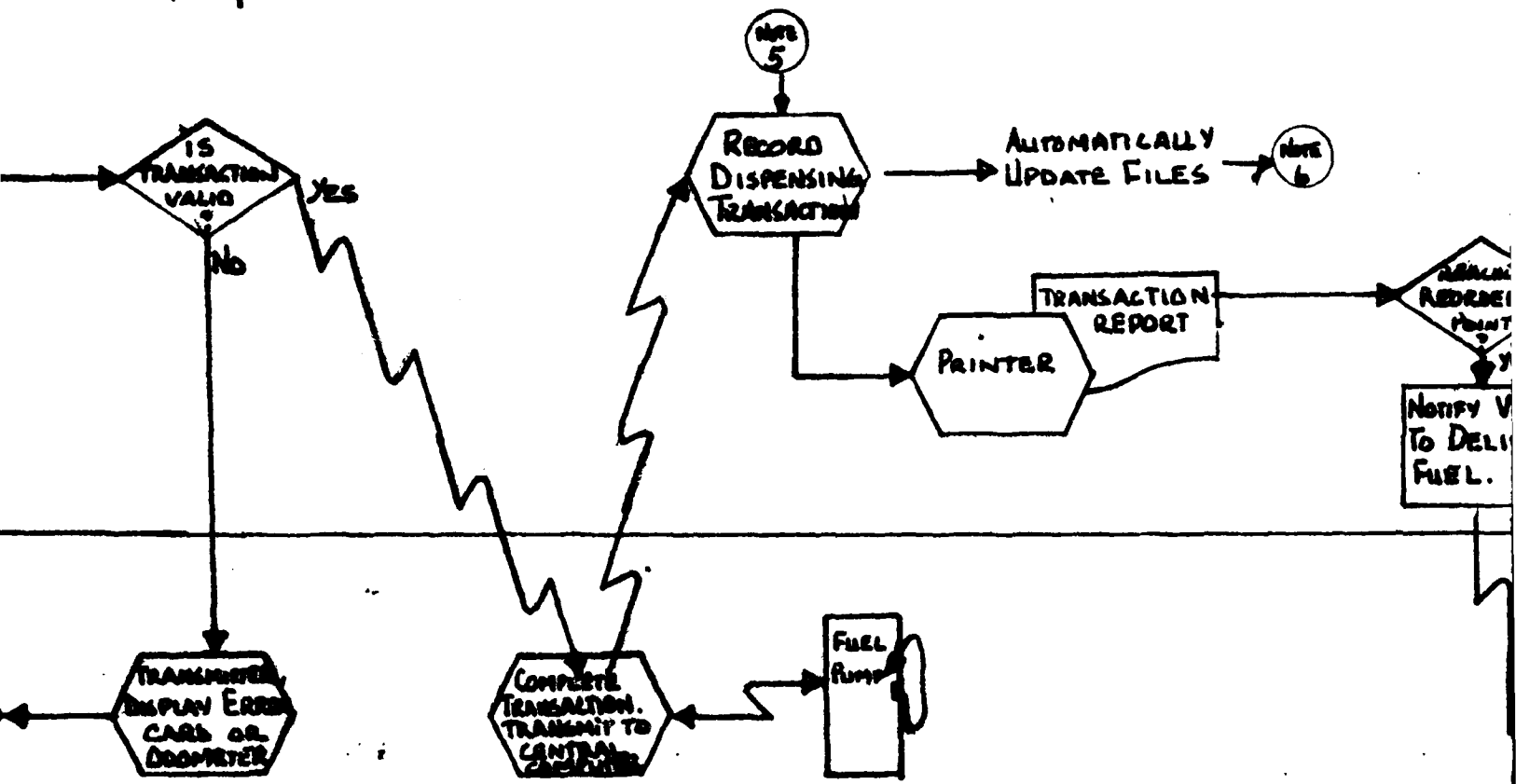
DELIVERY
VENDOR

QUARTERMSTR

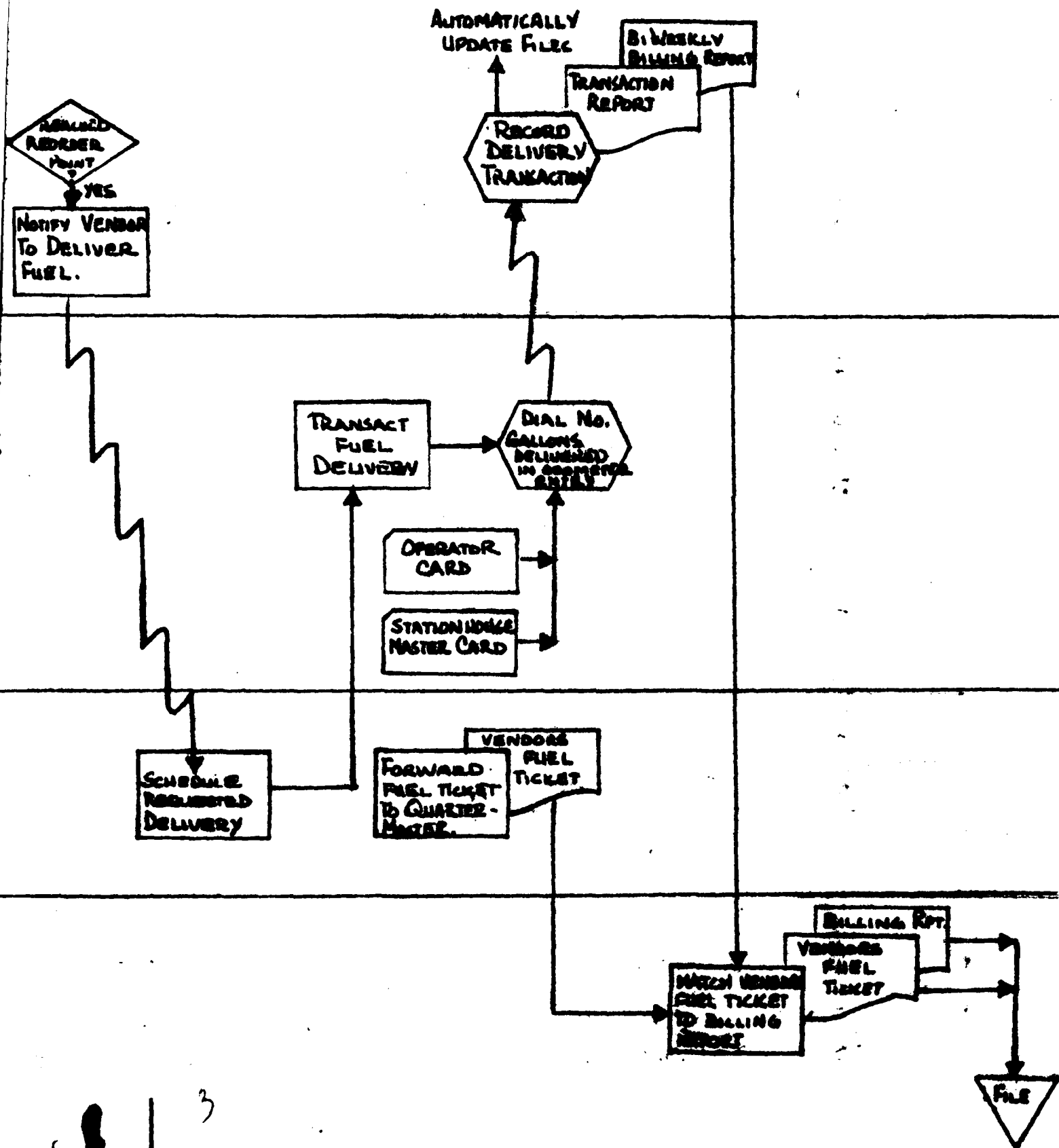
EACH VEHICLE
OPERATOR
DISPENSES
OWN GAS.



1



2



NOTES

- ① MAGNETICALLY ENCODED CARD CONTAINING ACTUATOR CARD NO. & SECURITY CODE
- ② MAGNETICALLY ENCODED CARD CONTAINING ACTUATOR CARD NO. & SECURITY CODE.
- ③ VARIABLE DIALS CONTAIN CURRENT ODOMETER READING.
- ④ VALIDITY CHECKS:
OPERATOR
 VALID
VEHICLE
 VALID
 TANK CAPACITY
 REASONABLE MILEAGE
TANK/PUMP
 STATUS
 FUEL AVAILABILITY
- ⑤ TRANSACTION RECORD
 SEQUENCE NO.
 TRANSACTION TYPE
 DATE & TIME
 VEHICLE CHARGED
 VEHICLE NUMBER
 ODOMETER ENTRY
 SITE NUMBER
 TANK NUMBER
 FUEL TYPE
 PUMP NUMBER
 GALLONS PUMPED
 CALCULATED MPG
 VEHICLE CLASS
 OPERATOR CLASS
 OPERATOR SEC. SE. NO.

- ⑥ FILES:
 OPERATOR
 VEHICLE
 TANK/PUMP

FILES

OPERATOR

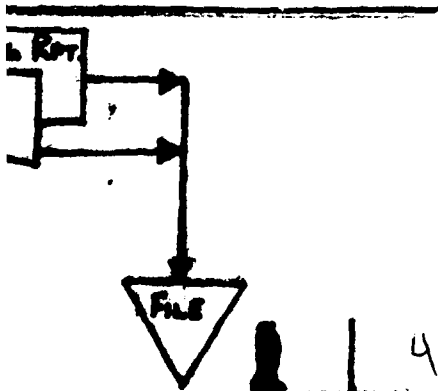
ACTUATOR CARD
 SEC. SECURITY NO.
 ASSIGNED COMM.
 FIRST INITIAL
 SURNAME
 STATUS CODE
 TYPE CODE - P
 CARD SEQUENCE

VEHICLE

ACTUATOR CARD
 DEPT. VEHICLE
 ASSIGNED COMM.
 VEHICLE CLASS
 FUEL TYPE
 MILES LIMIT
 LAST ODOM. RE
 VEH. TANK CAP
 CARD SEQUENCE

TANK/PUMP

SITE ID
 SITE STATUS
 TANK ID
 TANK STATUS
 PUMP ID
 PUMP STATUS
 FUEL TYPE
 TANK CAPACITY
 REORDER QTY
 SHUTDOWN FUEL
 OPENING BALANCE
 NO. OF DELIVER
 TERMINAL ADDRESS
 TELEPHONE LINE



LES

NO
ORDER CARD NO.
SECURITY NO.
ASSIGNED COMMAND
INITIAL
NAME
K CODE
CODE - PVC
SEQUENCE NO.

ORDER CARD NO.
VEHICLE NO.
ASSIGNED COMMAND
VEHICLE CLASS
TYPE
LIMIT
OBSOLETE READING
TANK CAPACITY
SEQUENCE NO.

PUMP
ID
STATUS
ID
STATUS
ID
STATUS
TYPE
CAPACITY
ENTER POINT
ENTER POINT
LINE BALANCE
OF DELIVERIES
INITIAL ADDRESS
PHONE LINE NO.

PROPOSED
FUEL MONITORING
SYSTEM
FOR
NEW YORK CITY POLICE
DEPARTMENT

PREPARED BY:

WM. J. McGRATH
TECHNOLOGY TRANSFER AGENT
NAVAL UNDERWATER SYSTEMS CENTER
NEW LONDON, CONN. 06320

&
SGT. FRANK STRYJEWSKI
USER REPRESENTATIVE - NYCPD
MAJOR TRANSPORT DIVISION
53-15 58TH ST.
KINGSIDE, QUEENS, N.Y. 11377

SEPTEMBER 1977

Appendix C

NEW YORK CITY POLICE DEPARTMENT
PATROL AND ADMINISTRATIVE GUIDES
AND
INTERIM ORDER NO. 9
COMPUTERIZED FUEL DISPENSING SYSTEM

PATROL GUIDE

COURSE NO.

103-2


**PATROL
DUTIES AND RESPONSIBILITIES**

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		18 of 20

POLICEWOMAN**GASOLINE
DISPENSER**

1. Possess a Certificate of Fitness from Fire Department.
2. Supply gasoline and oil to department vehicles and authorized private vehicles.
3. Complete captions on RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE (PD 561-013) and sign
 - a. Changes or erasures not permitted. Mark RECEIPT "Void" and use next RECEIPT.
4. Have operator of vehicle sign the RECEIPT FOR GAS, OIL, GREASE AND ANTI-FREEZE.
5. See that no one smokes or carries lighted substance in premises where gas is dispensed.
6. Display "No Smoking" signs.
7. Have buckets filled with sand available.
8. Sprinkle sand to absorb spilled gasoline, oil or grease.
9. Make certain that the ignition is turned off when gasoline is dispensed into fuel tanks.
10. Measure the contents of the station house gasoline tank before and after delivery of gasoline and make appropriate entry in "Gas, oil, grease and anti-freeze" book.
11. Make certain fire extinguishers in premises are full and serviceable.
12. Notify station house supervisor when gas storage tanks are half full.

PATROL GUIDE

103-2



PATROL DUTIES AND RESPONSIBILITIES

ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		19 of 20

GASOLINE DISPENSER

13. Perform other duties as directed by station house supervisor.
14. Keep gasoline pumps locked when not present.
15. Keep garage area neat and clean.

PATROLWAGON OPERATOR

ATTENDANT

**PATROL GUIDE**

PROCEDURE No

125-11

DELIVERY OF GASOLINE TO A STATION HOUSEDATE ISSUED
10-1-72DATE EFFECTIVE
10-1-72

REVISION NUMBER

PAGE

1 of 1

PURPOSE

To verify amount of gasoline received at department facilities.

PROCEDURE

When gasoline is to be delivered to a department facility:

**GAS
DISPENSER**

- 1. Measure the contents of the tank before delivery.
- 2. Measure contents of tank after delivery.
- 3. Verify amount received on vendor's invoice.
- 4. Deliver invoice to the station house supervisor.

S.H. SUPERVISOR

- 5. Sign invoice.
- 6. Return one copy to vendor.
- 7. Retain one copy and deliver to clerical patrolman for forwarding to Quartermaster Section on next day after delivery.
- 8. Enter in Command Log:
 - a. Amount of gasoline received
 - b. Invoice Number
 - c. Vendor's name
 - d. Name of gasoline dispenser verifying receipt.

NOTE

- 1. If gasoline is not available in a department facility, the station house supervisor will notify Communications Division. A second notification is made after gas has been received.
- 2. The Gas Dispenser will order gasoline from the designated vendor, direct, when the tank is half full. If the vendor is closed, notification will be made after 0700 hours and the order recorded in the Telephone Record.

PATROL GUIDE

125-12

**DAILY GASOLINE SUMMARY**

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
10-1-72	10-1-72		1 of 1

- PURPOSE** To account for gasoline received, dispensed and on hand each day.
- PROCEDURE** At 2345 hours daily:
- GAS DISPENSER**
1. Measure amount of gasoline in storage tank.
 2. Determine amount of gasoline dispensed in the past 24 hours.
 - a. Refer to RECEIPT FOR GASOLINE, OIL, GREASE AND ANTI-FREEZE (PD 561-013).
 3. Report figures to station house supervisor.
- S.H. SUPERVISOR**
4. Enter in Command Log with heading "Gasoline Summary."
 - a. Gasoline in tank 0001 Gal.
(1) Determine from last "Gasoline Summary."
 - b. Gasoline received past 24 hours Gal.
(1) Determine from Command Log entries.
 - c. Total gasoline for 24 hours Gal.
 - d. Total gasoline dispensed past 24 hours Gal.
 - e. Gasoline now in tank Gal.
 - f. Verified by (Gasoline Dispenser - Name).
 5. Assign a Sergeant to investigate discrepancies.
 6. Report results of investigation to commanding officer for necessary action.
- NOTE** The station house supervisor, 2nd. and 3rd. platoons, is required to enter in the Command Log at the start of his tour, "Patrolman Jones, Gas Dispenser, reports ... gallons of gas on hand."

**ADMINISTRATIVE GUIDE**

PROCEDURE No.

325-14

PRIVATE VEHICLES AUTHORIZATION			
DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
4-5-76	4-5-76		1 of 1

PURPOSE

To authorize members of the service to use their private vehicles in the performance of official police duty.

PROCEDURE

When the use of a members privately owned vehicle is necessary or desirable for the performance of official police duty:

**MEMBER OF
THE SERVICE**

1. Submit four (4) copies of report to commanding officer.
 - a. Name, rank, shield number and command
 - b. Year, make, model and number of cylinders
 - c. Registration number of vehicle
 - d. Name and address of registered owner (Include relationship if owner other than member).

**COMMANDING
OFFICER**

2. Review report.
3. List any restrictions in the use of vehicle on all copies.
4. Indicate Approval/Disapproval
5. File original.
6. Forward copy to next higher command and Deputy Commissioner - Administration.
7. Return remaining copy to member.

NOTE

If a commanding officer revokes the authorization, or if the member no longer wishes to volunteer the use of the vehicle, a signed, dated notation of this fact will be made by the commanding officer on the command file copy, and notification made to the next higher command maintaining a file copy of the original authorization, and Deputy Commissioner - Administration.

**ADMINISTRATIVE GUIDE**

PROCEDURE NO.

325-15

VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE			
DATE ISSUED 4-5-76	DATE EFFECTIVE 4-5-76	REVISION NUMBER	PAGE 1 of 4

PURPOSE

To identify private vehicles used on official business and supply these vehicles with gas and oil.

DEFINITION

Department Vehicle Identification Plate is made of laminated cardboard, approximately 4 by 10 inches, and has a white background with blue print. Two (2) types of plates may be requested:

- a. **INDIVIDUAL PLATE** - issued to members of the service whose duties require frequent use of plate
- b. **POOL PLATE** - retained in command and issued to members as necessary.

PROCEDURE

When Vehicle Identification Plates are required:

COMMANDING OFFICER

1. Determine minimum number of plates.
2. Request plates, as follows:
 - a. **POOL PLATE**
 - (1) Prepare report listing the number of plates required, command and justification
 - (2) Forward request, through channels, to Deputy Commissioner-Administration.
 - b. **INDIVIDUAL PLATES**
 - (1) Have member concerned submit four (4) copies of request addressed to Commanding Officer, Motor Transport Division, containing:
 - (a) Name, rank, shield number and command
 - (b) Reason for request - permanent or temporary
 - (c) Owner of vehicle
 - (d) Address of owner
 - (e) Address of member of service concerned (if different from item d)
 - (f) Year and make of vehicle
 - (g) Registration number
 - (h) Estimated monthly mileage for official business.
 - (2) Endorse request and include justification.
 - (3) Forward request, through channels, to Deputy Commissioner-Administration.

DEPUTY COMMISSIONER-ADMINISTRATION

3. Review and forward approved requests to Commanding Officer, Motor Transport Division

COMMANDING OFFICER, MOTOR TRANSPORT DIVISION

4. Process approved requests:
 - a. **POOL PLATES** - forward plate number to all dispensing stations for addition to "master list". Gas and oil is authorized for pool plates at all dispensing stations.
 - b. **INDIVIDUAL PLATES** - indicate on all copies of request the dispensing station authorized; file the original request and forward remaining copies as follows:
 - (1) Dispensing station designated
 - (2) Member's commanding officer
 - (3) Member.

ADMINISTRATIVE GUIDE

PROCEDURE No.

325-15



VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE			
DATE ISSUED 4-5-76	DATE EFFECTIVE 4-5-76	REVISION NUMBER	PAGE 2 of 4

**MEMBER OF
SERVICE**

5. Display plate when necessary to identify vehicle on official business.
6. Comply with traffic regulations except in cases of urgent police business.
7. Safeguard plate.
8. Leave plate and ignition key in custody of station house officer when garaging vehicle at a precinct facility.

S.H. OFFICER

9. Make entry in COMMAND LOG.
 - a. Make subsequent entry when picked up.

**MEMBER OF
SERVICE**

- 10. Obtain gas and oil at designated location.
 - a. Obtain authorization to use an alternate station from Motor Transport Division if designated station is closed for an extended period of time
 - b. Carry copy of authorization in vehicle and display to dispenser
 - c. Report on four (4) copies change in vehicle or registration number, through channels, to Commanding Officer, Motor Transport Division indicating:
 - (1) Year and make of vehicle
 - (2) New registration number.
 - d. Do not obtain gas and oil after first day of June each year unless authorization has been renewed.

**COMMANDING
OFFICER**

- 11. Maintain a CONTROL LOG including name of member, vehicle description, destination, distance traveled and gas and oil received.
- 12. Subdivide LOG and account for each plate, both POOL and INDIVIDUAL, assigned to command.
- 13. Prepare and forward four (4) copies of report through channels, to Commanding Officer, Motor Transport Division when need for INDIVIDUAL plate no longer exists. Include:
 - a. Name, rank and shield number of member
 - b. Department plate number
 - c. Location where gas and oil obtained
 - d. Date of discontinuance.
14. Forward plate by messenger to Commanding Officer, Motor Transport Division.
 - a. Obtain receipt and file with copy of original approved request.
15. Forward report to Commanding Officer, Motor Transport Division if plate is reassigned to another member of command, indicating:
 - a. Number of plate
 - b. Information required, in step 2, INDIVIDUAL PLATES, subdivision b, above.

ADMINISTRATIVE GUIDE

PROCEDURE No

325-15


**VEHICLE IDENTIFICATION PLATES
AND GAS AND OIL FOR PRIVATE VEHICLE**

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
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**COMMANDING
OFFICER
(continued)**

16. Prepare and forward report in duplicate to the Commanding Officer, Motor Transport Division, through channels, if a Department Identification Plate is lost or stolen, including:
 - a. Details of the incident, and
 - b. COMPLAINT REPORT number, and
 - c. Request for a new plate if required.
17. Request renewals through channels before March 15 of each year including:
 - a. Name, rank and shield of member concerned
 - b. Owner of vehicle
 - c. Address of owner
 - d. Address of member of service concerned if different from above
 - e. Year and make of vehicle
 - f. Registration number of vehicle
 - g. Certification by unit commander that need still exists
 - h. Date of current authorization
 - i. Total mileage vehicle driven on police business during current authorized period
 - j. Total amount of gas and oil received from Police Department during period.
18. Forward consolidated request for renewals, in duplicate, to Commanding Officer, Motor Transport Division no later than April 1st using following format:

RANK	NAME	SHIELD	COMMAND	MAKE/YEAR OF VEHICLE	REGISTRATION NUMBER

19. Forward expired plates to parent command before June 30 with report indicating number of plates returned.
 - a. Parent command will forward plates to Commanding Officer, Motor Transport Division with report no later than June 30 each year.

NOTE

Any discrepancies between the number of Vehicle Identification Plates issued and the number returned will be explained and the COMPLAINT REPORT serial number included, if appropriate.

**COMMANDING
OFFICER
DISPENSING
STATION**

20. Forward report, by the 5th day of each month to Commanding Officer, Motor Transport Division and commanding officer of member receiving gas and oil, indicating:
 - a. Total gas and oil dispensed to each authorized member during previous month
 - b. Total gas and oil dispensed to all members of command concerned.

ADMINISTRATIVE GUIDE

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VEHICLE IDENTIFICATION PLATES AND GAS AND OIL FOR PRIVATE VEHICLE

DATE ISSUED	DATE EFFECTIVE	REVISION NUMBER	PAGE
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**COMMANDING
OFFICER –
AUTHORIZED
MEMBERS**

- 21. Compare reports received from commanding officer, dispensing stations with entries in **CONTROL LOG**.
 - a. Verify gas and oil consumption conforms to following:
 - (1) Approximately one (1) gallon of gas for each ten (10) miles of service connected driving should be maintained over an extended period of time
 - (2) Approximately one (1) quart of oil for each two hundred (200) miles of service connected driving.

NOTE

Consideration may be given to the type vehicle used.

**DEPUTY
COMMISSIONER
AND AREA
COMMANDERS**

- 22. Submit consolidated quarterly report to Commanding Officer, Motor Transport Division. These reports are due 30 days after end of quarter. State:
 - a. Mileage incurred was for official duty
 - b. Gas and oil disbursement was consistent with mileage.

**COMMANDING
OFFICER –
MOTOR TRANSPORT
DIVISION**

- 23. Submit quarterly report to the Police Commissioner indicating the disposition of all Department Vehicle Identification Plates.

INTERIM ORDER NO. 33

POLICE DEPARTMENT
CITY OF NEW YORK

August 16, 1976

TO ALL COMMANDS

Subject: DISPENSING GASOLINE

1. Often times department gasoline dispensing facilities are closed, causing a reduction in the number of radio motor patrol cars available for patrol, because:

- a. Authorized gas dispenser is not performing duty
- b. Fuel supplies are depleted
- c. Pumping equipment is malfunctioning or inoperative due to water in the main gas tank.

2. The elimination of these problems will increase the number of cars available for use while enhancing safety and security at dispensing stations. Therefore, commanding officers of commands with dispensing facilities will:

- a. Instruct gasoline dispensers and station house officers to comply with the provisions of Patrol Guide procedures 125-11 (Delivery of Gasoline to Station House) and 125-12 (Daily Gasoline Summary).
- b. Designate a supervisory officer and/or the patrol supervisor on each tour of duty to supervise gasoline operations at frequent and irregular intervals.
- c. Ensure that gasoline is dispensed either by or under direct supervision of a member of the department possessing a Certificate of Fitness issued by the Fire Commissioner.

3. The Administrative Code (Section C19-70.0) does not require the actual dispenser of gasoline to possess a Certificate of Fitness. It is sufficient that the member possessing the Certificate is present to supervise the pumping of gasoline. Therefore, to insure that department gasoline dispensing facilities do not close due to the unavailability of qualified gas dispensers, commanding officers concerned shall submit a request for Certificate of Fitness as per Administrative Guide procedure 320-16 (Certificate of Fitness - Gasoline Dispenser) for lieutenants, sergeants, station house officers and civilian personnel having custodial job titles assigned to their commands.

4. Members of the department assigned to dispense or supervise the dispensing of gasoline will:

- a. Comply with the provisions of Patrol Guide procedure 103-2, page 18 (Duties and Responsibilities - Gasoline Dispenser)
- b. Request operators of unmarked, converted or private vehicles displaying vehicle identification plates to identify themselves prior to dispensing gasoline to such vehicles
- c. Report defective pumping equipment promptly to Building Maintenance Section and make follow up report if equipment is not repaired within reasonable time
- d. Post "NO GAS" sign when less than ninety (90) gallons of gasoline remains in tank.

5. In addition, to eliminate engine problems caused by water being pumped into gas tanks of radio motor patrol cars, gasoline dispensers WILL NOT:

- a. Pump gas during or for a minimum of one hour after gasoline has been delivered
- b. Dispense gas when less than ninety (90) gallons remains in the tank.

6. Commanding officers concerned will assign a ranking officer to supervise a monthly test which is conducted to determine the amount of water in the gasoline storage tank. The Building Maintenance Section will provide equipment and necessary instructions to conduct these tests. An entry will be made in the Command Log and two (2) copies of a report indicating results of the test will be prepared on Typed Letterhead and forwarded to the Deputy Commissioner-Administration, DIRECT.

7. Commanding officers concerned will also prepare two (2) copies of a report on Typed Letterhead and forward, through channels, to the Deputy Commissioner-Administration, listing all available information concerning vendors who do not respond to a request for delivery of gasoline.

8. Any provision of the Department Manual or other department directive in conflict with this order is suspended.

9. Operations Order 103, series 1974 is REVOKED.

BY DIRECTION OF THE POLICE COMMISSIONER

DISTRIBUTION:
All Commands

INTERIM ORDER NO. 33

INTERIM ORDER NO. 9

POLICE DEPARTMENT
CITY OF NEW YORK

March 27, 1981

TO ALL COMMANDS

Subject: COMPUTERIZED FUEL DISPENSING SYSTEM

1. The department has developed a Computerized Fuel Dispensing System which will be phased in on a borough by borough basis. The effective date of implementation within each borough will be announced via transmission of a TELETYPE and FATN message. The new system will provide the following benefits:

- a. Eliminate the need for:
 - (1) Gas receipt books
 - (2) Locks and keys for gas pumps
 - (3) Re-ordering fuel at precinct level
 - (4) Quarterly vehicle mileage reports
 - (5) Gasoline summary entries in Command Log
 - (6) Telephone notifications of amount of fuel on hand
 - (7) Monthly and quarterly reports of gasoline and oil dispensed to authorized private vehicles
- b. Alleviate the "No Gas" problem
- c. Reduce out of service time to re-fuel department vehicles
- d. Permit reassignment of personnel currently involved in dispensing fuel
- e. Provide more efficient and accurate records of dispensing operations.

2. Under the Computerized Fuel Dispensing System, members of the service qualified to operate a department vehicle, and designated by their commanding officers, will be issued a plastic Operator Card, similar to a credit card, which will uniquely identify the member to whom issued; each department vehicle will be assigned a Vehicle Card which uniquely identifies the vehicle concerned. While the major portion of fuel dispensing operations will be accomplished utilizing these two cards alone certain specific re-fueling and recording transactions indicated in the procedure contained herein will require the issuance of two (2) additional cards - a Master Card and a Private Vehicle Card - to each fuel dispensing facility within the department.

3. It is emphasized that these plastic cards are an integral part of the new system; without them, it will be impossible to re-fuel at any department facility. Conversely, possession of a valid OPERATOR CARD by a person other than the member to whom issued, affords that person access to fuel at any department facility; the computer will record any fuel so obtained as having been received by the member to whom the card was issued. Thus, it is incumbent upon each member concerned to exercise due care in safeguarding cards from loss and/or damage at all times. However, should a card be misplaced, lost or damaged, the member concerned must immediately notify the Fuel Control Center, Motor Transport Division (476-7524), so that the card may be invalidated and a new one issued. Prompt notification will eliminate the possibility of unauthorized use.

4. To further ensure the integrity of the system, the commanding officer of a member to whom an OPERATOR CARD has been issued will require the surrender of such card when the member concerned:

- a. Retires, resigns or dies
- b. Is suspended or dismissed
- c. Has been granted indefinite military leave or extended leave of absence.

After taking possession of an OPERATOR CARD in any of the foregoing circumstances, the commanding officer concerned will notify the Fuel Control Center, by telephone, so that the card may be invalidated and then forward the card to that unit, via department mail.

5. Upon transfer of a member authorized to obtain fuel for a private vehicle, the private vehicle fueling privilege will be invalidated automatically by Fuel Control Center personnel on the basis of current Personnel Orders; no action on the part of the member or his former commanding officer is required. The member will retain his original OPERATOR CARD for use in re-fueling department vehicles, but private vehicle fueling transactions will be rejected by the computer. Reinstatement of the private vehicle fueling privilege will require a Typed Letterhead from the member's new commanding officer to the Commanding Officer, Motor Transport Division.

6. Commands concerned are advised that at the time the system becomes operational, they will no longer be required to re-order motor vehicle fuel. This will be accomplished automatically by the Fuel Control Center when the computer indicates fuel on hand has reached a prescribed level. However, VENDOR'S INVOICES indicating fuel delivery to department facilities will continue to be FORWARDED TO AUDITS & ACCOUNTS SECTION THE NEXT DAY AFTER DELIVERY. Additionally, commanding officers concerned will designate responsible members to monitor the supply of engine oil available and re-order additional oil, as required, through Motor Transport Division.

7. All members of the service concerned are advised that when the Computerized Fuel Dispensing System first becomes operational, the initial insertion of the VEHICLE CARD into the computer terminal will result in the appearance of an "Error Light" because the computer has insufficient recorded data pertaining to the vehicle. No fuel can be obtained until the procedure is repeated in its entirety. Upon completion of the required procedure the second time, the pump lever may be activated and fuel obtained.

8. In the event of a computer breakdown or other emergency, MANUAL OVERRIDE procedures have been developed by Motor Transport Division to ensure continued availability of fuel for department vehicles.

9. Accordingly, upon implementation of the Computerized Fuel Dispensing System, all members of the service concerned will comply with the following:

PURPOSE To obtain fuel for department and/or authorized private vehicles.

DEFINITIONS OPERATOR CARD (white) - Issued to members qualified to operate department vehicles AND designated by their commanding officers; uniquely identifies member concerned.
VEHICLE CARD (blue) - Issued to each department vehicle; uniquely identifies the vehicle to which assigned.

PRIVATE VEHICLE CARD (red) - Issued to each fuel dispensing facility within the department for use in conjunction with the OPERATOR CARD to obtain fuel and/or oil for authorized private vehicles, including department ambulances.

MASTER CARD (green) - Issued to each fuel dispensing facility within the department for use in conjunction with the OPERATOR CARD, to:

- a. Permit re-fueling of department vehicle when assigned VEHICLE CARD is MISPLACED, LOST OR DAMAGED.
- b. Record fuel deliveries.
- c. Verify and record fuel on hand in in-ground storage tanks, as indicated by "dip stick" readings.
- d. Provide fuel for small machinery not having a department vehicle identification number, i.e., snow blowers, generators, etc.

PROCEDURE

When motor vehicle fuel is required:

MEMBER OF
THE SERVICE

1. Verify that "System Light" is on, indicating that system is operational.
 - a. Notify Fuel Control Center (476-7524) if inoperative.
2. Insert OPERATOR CARD in "Card Entry" slot on face of computer terminal and remove smartly.

NOTE

When any of the above defined cards is inserted in the "Card Entry" slot on face of terminal, the magnetic tape strip MUST FACE UPWARD AND TO THE RIGHT.

3. Push "Pump Select" button for fuel desired.
 - a. Wait for amber "Wait Light" to go out.
4. Enter odometer mileage reading to NEAREST WHOLE MILE, using thumbwheels on face of terminal.
 - a. Thumbwheel positions NOT REQUIRED to record mileage MUST BE SET AT ZERO, eg., 001234, 012345, etc.
5. Insert Vehicle Card in "Card Entry" slot and remove smartly
6. Push same "Pump Select" button as in step 3
 - a. Wait for amber "Wait Light" to go out and green "Pump Select Light" to appear.
7. Activate pump lever and obtain required fuel.
 - a. If re-fueling is not commenced in a timely fashion, system will shut down and require that procedure be repeated to obtain fuel.

NOTE

If a "Error Light" appears, correct the error and repeat procedure

TO OBTAIN FUEL FOR AUTHORIZED PRIVATE VEHICLES

8. Obtain Private Vehicle Card (red) from station house officer/supervisory member.
9. Complete steps 1, 2 and 3, above.
10. Enter LAST FOUR (4) DIGITS OF SOCIAL SECURITY NUMBER ON RIGHT MOST THUMBWHEELS.
 - a. Set remaining LEFT MOST thumbwheels at ZERO, i.e., 00.

Interim Order No. 11

NOTE

Odometer mileage readings are NOT REQUIRED when using Private Vehicle Card to obtain fuel.

11. Insert Private Vehicle Card in "Card Entry" slot and remove smartly.
12. Complete steps 6 and 7 above
13. Return Private Vehicle Card to station house officer/supervisory member.

TO OBTAIN FUEL FOR DEPARTMENT VEHICLE WHEN ASSIGNED VEHICLE CARD IS MISPLACED, LOST OR DAMAGED

14. Obtain Master Card (green) from station house officer/supervisory member.
15. Complete steps 1, 2 and 3, above.
16. Identify type of vehicle by dialing appropriate digits on LEFT MOST thumbwheels, as follows:

<u>TYPE OF VEHICLE</u>	<u>ENTER ON LEFT MOST THUMBWHEELS</u>
Department auto, van, station wagon, truck, patrol wagon	00
Department scooter	009
Department motorcycle	0089
Auxiliary Police vehicle	0088

NOTE

When using the MASTER CARD IN LIEU OF ASSIGNED VEHICLE CARD to re-fuel department vehicles, ODOMETER MILEAGE READINGS WILL NOT BE ENTERED ON THUMBWHEELS.

17. Enter assigned department vehicle identification number in RIGHT MOST thumbwheel position(s).

NOTE

Thumbwheel positions NOT REQUIRED to indicate type of vehicle and/or assigned department vehicle identification number MUST BE SET AT ZERO.

18. Insert Master Card in "Card Entry" slot and remove smartly.
19. Complete steps 6 and 7, above.
20. Return Master Card to Station house officer/supervisory member.

TO RECORD ENGINE OIL OBTAINED FOR DEPARTMENT VEHICLES

21. Put required amount of oil into vehicle.
22. Enter number of quarts used on RIGHT MOST thumbwheel.
 - a. Set remaining thumbwheel positions at ZERO.
23. Insert OPERATOR CARD in "Card Entry" slot and remove smartly.
24. Push "Oil" button.
 - a. Wait for amber "Wait Light" to go out.
25. Insert VEHICLE CARD in "Card Entry" slot and remove smartly.
26. Push "Oil" button.
 - a. When "Wait Light" goes out, transaction has been recorded.

NOTE

When obtaining engine oil for a department vehicle whose VEHICLE CARD has been lost, misplaced or damaged, the Master Card can be used in lieu of the assigned VEHICLE CARD in step 25.

TO RECORD ENGINE OIL OBTAINED FOR AUTHORIZED PRIVATE VEHICLES

27. Complete steps 21 through 26, SUBSTITUTING THE PRIVATE VEHICLE CARD FOR THE VEHICLE CARD required in step 25.

ADDITIONAL DATA

As indicated in the DEFINITIONS, the MASTER CARD (green) is necessary to record certain other transactions, to wit:

TO RECORD FUEL DELIVERIES AT DEPARTMENT FACILITIES

28. Insert OPERATOR CARD in "Card Entry" slot and remove smartly.
29. Push "Pump Select" button.
30. Identify transaction by setting LEFT MOST thumbwheel at 90.
31. Indicate gallons of fuel delivered on RIGHT MOST thumbwheel positions, eg., 1500, 0900, etc.
 - a. Unused thumbwheel positions must be set at ZERO.
32. Insert MASTER CARD in "Card Entry" slot and remove smartly.
33. Push same "Pump Select" button.
34. Transaction is completed when amber "Wait Light" goes out.

TO RECORD FUEL ON HAND IN IN-GROUND STORAGE TANK PER "DIP STICK" READING

35. Complete steps 28 and 29, above.
36. Identify transaction by setting LEFT MOST thumbwheels at 70.
37. Enter gallons of fuel on hand ("dip stick" reading) by setting RIGHT MOST thumbwheels at appropriate digital positions, eg., 0090, 0450, 1000, 1100, etc.
38. Complete steps 32 and 33 above.
39. Transaction is completed when amber "Wait Light" goes out.

TO DISPENSE FUEL TO SMALL EQUIPMENT HAVING NO DEPARTMENT VEHICLE IDENTIFICATION NUMBER

40. Complete steps 28 and 29, above.
41. Identify transaction by setting thumbwheel positions at 009999 IN ALL INSTANCES.
42. Insert MASTER CARD in "Card Entry" slot and remove smartly.
43. Push SAME "Pump Select" button.
 - a. Wait for amber "Wait Light" to go out and green "Pump Select Light" to appear.
44. Activate pump lever and obtain required fuel.

10. Any questions pertaining to the foregoing procedure may be resolved by contacting the Fuel Control Center, Motor Transport Division, telephone (476-7524).

11. Any provisions of the Department Manual or other department directives in conflict with this order are suspended.

BY DIRECTION OF THE POLICE COMMISSIONER

DISTRIBUTION
All Commands

INTERIM ORDER NO. 9

-6-

Appendix D
EQUIPMENT SUPPLIERS*

The following is a listing of automated fuel dispensing equipment suppliers:

Bennet Pump Co.
Broadway Wood St.
P.O. Box 597
Muskegon, MI 49443
(616) 733-1302

CH Electronics, Inc.
P.O. Box 14042
Raleigh, NC 27610
(919) 833-2250

E.J. Ward, Inc.
8801 Tradeway
San Antonio, TX 78217
(512) 824-7383

E.S.I.
1841 E. 3rd St.
Tempe, AZ 85281
(602) 967-8751

Koppens Automatic
P.O. Box 6251
Chesapeake, VA 23323
(804) 487-0077

Petro Vend, Inc.
9128 W. 47th St.
Brookfield, IL 60513
(312) 485-4200

Rusco Electronics Systems
1840 Victory Blvd.
P.O. Box 5005
Gendale, CA 91201
(213) 240-2540

Tokheim Corporation
1600 Wabash Ave.
Fort Wayne, IN 46801
(219) 423-2552

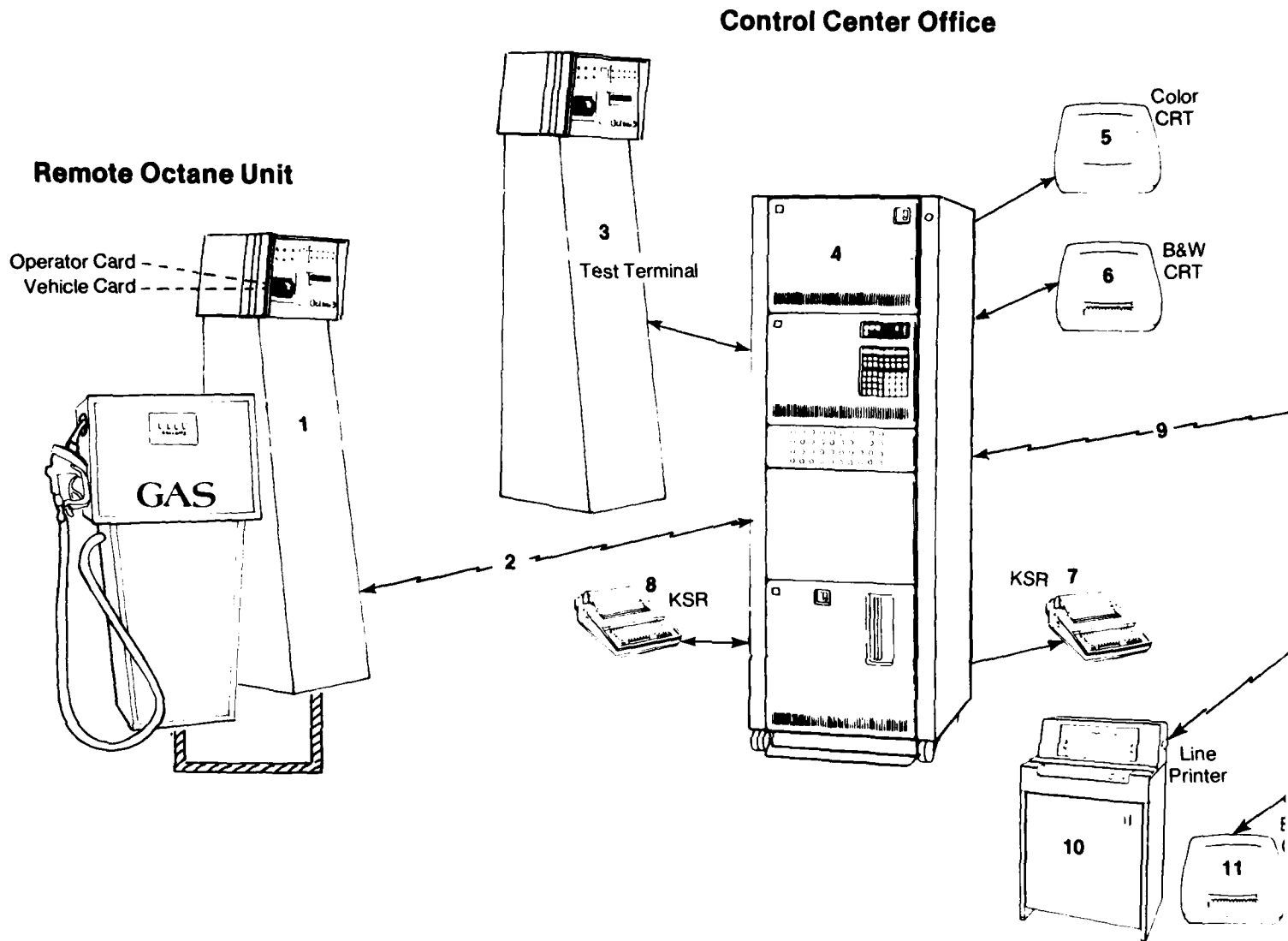
Tuthill Corporation
Fill-Rite Division
Baer Field
Fort Wayne, IN 46809
(219) 747-7524

William M. Wilson's
Sons, Inc.
P.O. Box 309
Lansdale, PA 19446
(215) 855-4631

* List compiled by The Product Information Network, McGraw-Hill Information Systems Company, 1221 Avenue of the Americas, New York, New York.

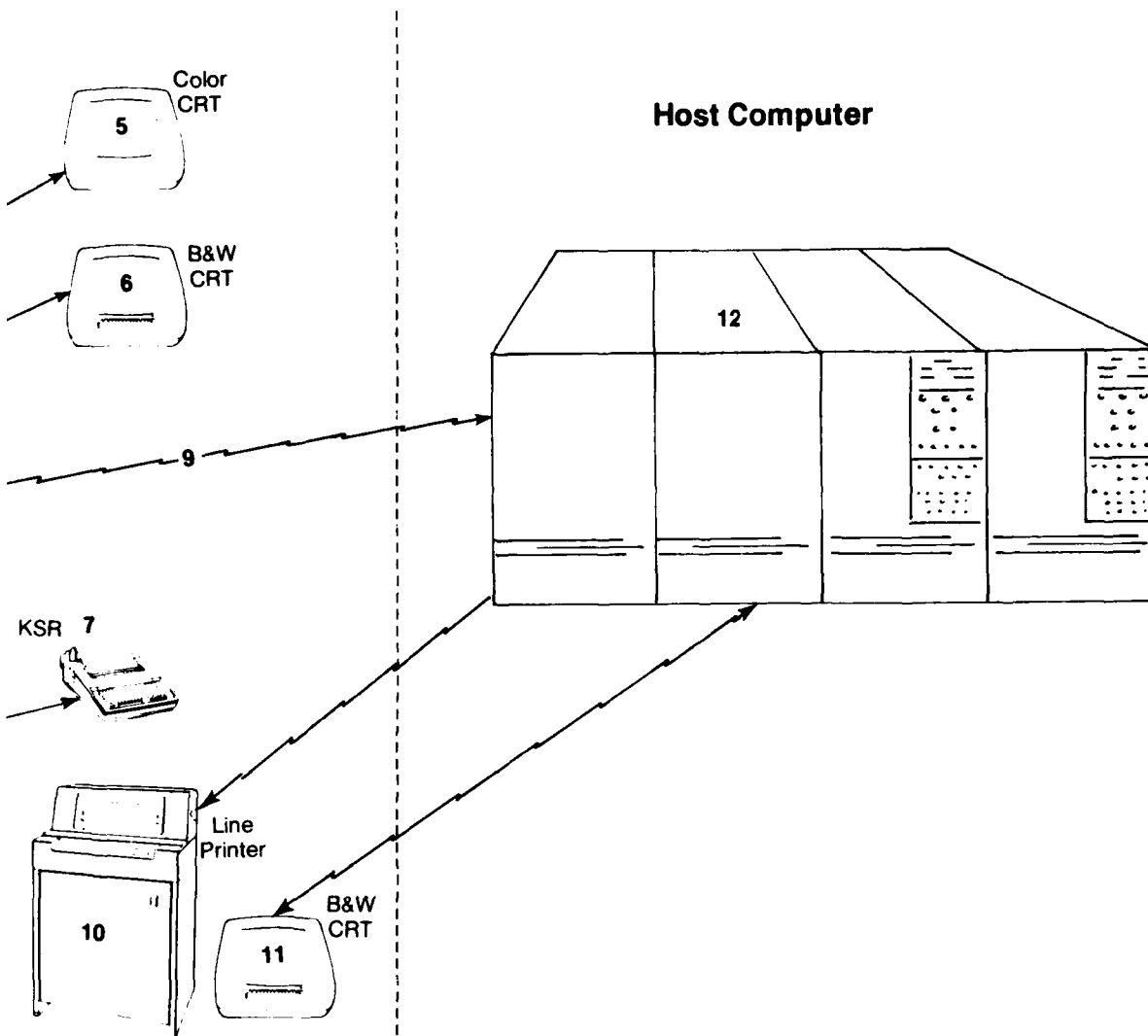
Appendix E

SYSTEM CONFIGURATION DESIGN AND CAPABILITY
USING LARGE HOST COMPUTER



Original Configuration with By-Product Fleet Management

1. Remote Terminals	assure card validity, activate pumps at remote sites	7. KSR	lo
2. Dedicated Telephone Lines	tie remote terminals to minicomputer	8. KSR	up
3. Test Terminal	simulates remote terminals, isolates terminal/telephone-line problem areas	9. Dial-up Telephone Line	pa pe
4. Minicomputer	performs card validity checks, collects and passes transaction data to host computer via dial-up telephone line	10. Line Printer	pr
5. Color CRT	Monitors equipment and fuel inventory status	11. Black & White CRT	qi
6. Black & White CRT	queries minicomputer for operator, vehicle and tank/pump status	12. Host Computer	st re di sa



t Management System

7. KSR	logs transactions
8. KSR	updates minicomputer and host computer files
9. Dial-up Telephone Line	passes transactions to host computer via periodic batch update
10. Line Printer	prints all management reports from host computer
11. Black & White CRT	queries host computer files
12. Host Computer	stores all system data, provides management reports--see following pages for host file data elements and definitions, and sample report capability

PROPOSED HOST FILE DATA ELEMENTS

OPERATOR FILE

Actuator Card Number
 Agency Code
 Record Identifier
 Card Sequence Number
 Surname
 First Name
 Initial
 Status Code
 Status Date
 Bureau
 Borough
 Command
 Previous Card Number

VEHICLE FILE

Actuator Card Number
 Agency Code
 Record Identifier
 Classification
 Card Sequence Number
 Previous Card Number
 Bureau
 Borough
 Command
 Responsibility Center
 Community Board
 Make of Vehicle
 Model of Vehicle
 Year of Manufacture

Engine Size
Tank Capacity
Product Type
Spare Vehicle
Air Conditioning
Power Lift Gate
Maximum Gross Vehicle Weight
Status Code
Status Date
Key Numbers
 Ignition
 Trunk
 Gas Cap
Vehicle Range
License Plate Number
Acquisition Date
Acquisition Cost
Vehicle Color
Average Miles Per Gallon This Tank
Average Miles Per Gallon Life
Current Odometer Reading
Last Odometer Reading
Startup Odometer Reading
Hour Meter/No Odometer Flag
Miles Driven - Month 1
Miles Driven - Month 2
Miles Driven - Month 3
Miles Driven - Month 4
Miles Driven - Month 5
Miles Driven - Month 6
Miles Driven - Month 7
Miles Driven - Month 8
Miles Driven - Month 9
Miles Driven - Month 10
Miles Driven - Month 11
Miles Driven - Month 12
Miles Driven - Month 13

Current Gallons Dispensed
 Cumulative Gallons Consumed - Month 1
 Cumulative Gallons Consumed - Month 2
 Cumulative Gallons Consumed - Month 3
 Cumulative Gallons Consumed - Month 4
 Cumulative Gallons Consumed - Month 5
 Cumulative Gallons Consumed - Month 6
 Cumulative Gallons Consumed - Month 7
 Cumulative Gallons Consumed - Month 8
 Cumulative Gallons Consumed - Month 9
 Cumulative Gallons Consumed - Month 10
 Cumulative Gallons Consumed - Month 11
 Cumulative Gallons Consumed - Month 12
 Cumulative Gallons Consumed - Month 13
 Life Gallons Consumed
 Out of Service Count
 Shop Number
 PM Code
 Last PM Mileage
 Last PM Date
 Mileage Next PM Due

Repair Costs

Air Conditioning, Heating & Ventilating System
 Cab and Sheet Metal
 Instrument And Gages
 Axles Classic
 Axles Front - Nondriven
 Axles Rear - Nondriven
 Brakes
 Frame
 Steering
 Suspension
 Tires
 Wheels, Rims, Hubs & Bearing
 Automatic Lubricator

Drive Train

Axle Driven - Front Steering
Axle Driven - Rear
Clutch
Drive Shaft(s)
Power Take Off
Transmission - Main - Standard
Transmission - Main - Automatic
Transmission - Auxilary And Transfer Case
Charging System
Cranking System
Ignition System
Lighting System
Air Intake System
Cooling System
Exhaust System
Fuel System
Power Plant

Accessories

General Accessories
Electrical Accessories
Expandable Accessories
Horn and Mounting
Power Tail Gate/Lifting Devices
Radio Equipment
Spare Wheel Mounting
Vehicle Coupling System
Special Police Equipment

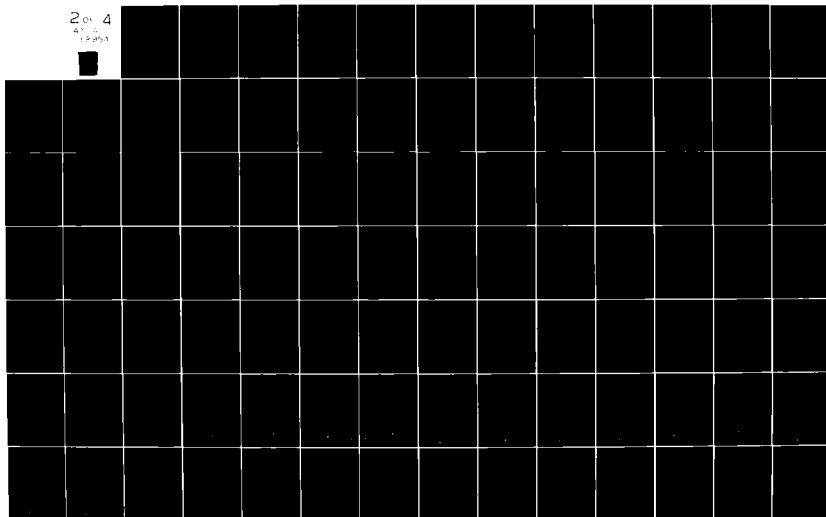
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NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(0)
NOV 81 W J MCGRATH; W W MCNAMARA
NUSC-TR-6567-II

UNCLASSIFIED

NL

2 of 4
13/11/81



TANK PUMP FILE

Actuator Card Number
 Agency Code
 Record ID (Site Number)
 Tank Number
 Pump Number
 Command
 Tank Capacity
 Product Type
 Current Gallons Delivered
 Month-to-date Gallons Delivered
 Year-to-date Gallons Delivered
 Month-to-date Delivery Count
 Year-to-date Delivery Count
 Month-to-date Transaction
 Year-to-date Transaction
 Year-to-date Gallons Dispensed
 On-hand Balance
 Reorder Point
 Shutdown Point
 Call Flag
 Call Time
 Delivery Time
 Delivery Date
 Status Code
 Status Date
 Inventory Adjustment
 Master Meter Reading

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: OPERATOR		PAGE 1 OF 4			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
0	1	Alpha	1	File Identifier	"0" Identifies the operator file in the NYCPD Fuel Monitoring System.
0 01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the operator actuator card which uniquely identifies a record or operator in the NYCPD Fuel Monitoring System.
0 02	8-10	Numeric	3	Agency Code (NYCPD=056)	Uniquely identifies each agency within the New York City Government. Codes are defined in the agency code table attached. Agency codes were taken from the integrated financial management systems manual, appendix "C", pages C1-C5, dated March 1, 1977.
0 03	11-22	Numeric	11	Record Identifier Position 11-19 Tax Registry Number	A six (6) digit number assigned by the Police Department which uniquely identifies each employee of the department. Field is nine (9) digits in the event that other city agencies use social security number to uniquely identify employees. In the case of NYCPD employees, position 11, 12, and 13 will always be zero filled by the computer.
				Position 20 "A" or "I"	"A" Indicates the active records on file. "I" indicates the inactive record(s) on file; there can be multiple "I" records on file but only one (1) "A" record on file.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: OPERATOR		PAGE 2 OF 4			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Position 21-22 Card Sequence Number	Positions 21 and 22 identify the card sequence number, which indicates the total number of actuator cards issued to each individual.
0 04	23-40	Alpha	18	Surname	Surname of Vehicle Operator
0 05	41-50	Alpha	10	First Name	First Name of Vehicle Operator
0 06	51	Alpha	1	Initial	Middle Initial of Operator
0 07	52	Numeric	1	Status Code	1=Active-Valid 2=Lost/Stolen-Invalid 3=Resigned/Retired/Terminated-Invalid 4=Suspended-Invalid 5=Military/Extended Leave-Invalid 6=Mutilated Card-Invalid
0 08	53-58	Numeric	6	Status Date	A computer generated date to indicate the effective date of the current status code. Expressed MMDDYY.
0 09	59-60	Alpha	2	Bureau Code	Indicates the organizational bureau within the Police Department to which the operator is assigned. CA-Office of Deputy Commission Community Affairs CJ-Office of Deputy Commission Criminal Justice

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: OPERATOR		PAGE 3 OF 4			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
0 10	61-64	Alpha-Numeric	4	Borough	Bureau Code (Continued) CO-Office of Chief of Operations CT-Office of Deputy Commissioner Trails DA-Office of Deputy Commissioner Administration DB-Detective Bureau FC-Office of First Deputy Commissioner IS-Inspectional Services Bureau LM-Office of Deputy Commissioner Legal Matters OC-Office of Chief of Organized Crime Control Bureau PB-Personnel Bureau PC-Office of Police Commissioner PI-Office of Deputy Commissioner PS-Patrol Services Bureau SO-Special Operations Division SS-Support Services Bureau Identifies the geographical area which the operator's command covers. Allowable coding: BKLN-Brooklyn North BKLS-Brooklyn South BKLY-Brooklyn BRNX-Bronx City-City Wide MANH-Manhattan MANN-Manhattan North MANS-Manhattan South QUEN-Queens STIS-Staten Island See Borough Table.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: OPERATOR		PAGE <u>4</u> OF <u>4</u>			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
0 11	65-68	Alpha-Numeric	4	Command	A Mnemonic code which defines the lowest organizational level to which an operator is assigned. See command table.
0 12	69-74	Numeric	6	Previous Card Number	When more than one (1) actuator card has been issued to an employee the previous card is invalidated and called out as an audit trail.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE					
		PAGE <u>1</u> OF <u>15</u>			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V	1	Alpha	1	File Identifier	"V" identifies the Vehicle File
V01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the vehicle actuator card for uniquely identifying a record or vehicle in the vehicle file.
V02	8-10	Numeric	3	Agency Code	Identifies the agency within the City Government. Codes are defined in Appendix "C" of the Integrated Financial Management System Manual. Code for Police Dept. is "056".
V03	11-19	Alphanumeric	9	<u>Record ID</u>	
		Numeric	2	Classification Code (Pos. 11-12)	A classification grouping of vehicles. See classification Code Table attached
		Numeric	4	Vehicle Number (Pos. 13-16)	A reuseable number assigned by the Police Department to identify each police vehicle.
		Alpha	1	Active or Inactive Record Identifier (Pos. 17)	"A" indicates the active record on file. "I" indicates inactive record (s) on file. There can be multiple "I" records on file but only one (1) "A" record.

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V04	20-25	Numeric	2	Actuator Card Sequence Number (Pos. 18-19)	Identifies the card sequence number which indicates the total number of actuator cards issued to each individual.
		Numeric	6	Previous Card Number	When subsequent cards are issued the previous card will be invalidated and tracked by this field.
V05	26-27	Alpha	2	Bureau	Indicates the organizational Bureau within the Police Dept. to which the operator is assigned. Allowable Bureau Codes: CA-Office of Deputy Commissioner Community Affairs CJ-Office of Deputy Commissioner Criminal Justice CO-Office of Chief of Operations CT-Office of Deputy Commissioner Trials DA-Office of Deputy Commissioner Administration DB-Detective Bureau FC-Office of First Deputy Commissioner IS-Inspectional Services Bureau LM-Office of Deputy Commissioner Legal Matters OC-Office of the Chief of Organized Crime Control Bureau PB-Personnel Bureau PC-Office of Police Commissioner PI-Office of Deputy Commissioner Public Information

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NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE VEHICLE		FIELD		TITLE	DEFINITION & ALLOWABLE CODING
FIELD ID	FILE POS.	TYPE	SIZE		
V06	28-31	Alpha	4	Bureau (Continued) Borough	PS-Patrol Services Bureau SO-Special Operations Division SS-Support Services Bureau TD-Traffic Division Identifies the Geographical area to which the vehicle is assigned. Allowable Coding: BKLN-Brooklyn North BKLS-Brooklyn South BKLY-Brooklyn BRNX-Bronx CITY-City Wide MANH-Manhattan MANN-Manhattan North MANS-Manhattan South QUEN-Queens STIS-Staten Island See Borough Table.
V07	32-35	Alphanumeric	4	Command	Identifies the Command, Unit, or Precinct to which the vehicle is assigned for duty. See Command Code Table attached.
V08	36-39	Alphanumeric	4	Responsibility Center	Future use for co-terminology fiscal control.
V09	40-42	Alphanumeric	3	Community Board	Future use for co-terminology fiscal control.
V10	43-46	Alpha	4	Make of Vehicle	Identifies the division of the manufacturer of the vehicle.

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 4 OF 15

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V11	47-50	Alpha	4	Model of Vehicle	Vehicle model as defined by the manufacturer.
V12	51-52	Numeric	2	Year of Manufacturer	Last Two (2) digits of the year the vehicle was manufactured.
V13	53-56	Alphanumeric	4	Engine Size	The cubic inch displacement of the vehicle engine and number of cylinders, i.e., 350-8.
V14	57-59	Numeric	3	Tank Capacity	Indicates the vehicle fuel tank capacity in gallons.
V15	60	Numeric	1	Product Type	A numeric code indicating the type of fuel dispensed: 0=Not applicable 1=Regular 2=Premium 3=Unleaded 4=Diesel 5=Oil
V16	61	Alpha	1	Spare Vehicle	Indicates if vehicle has been assigned as a spare vehicle and consequently not included in the quota. Y=Yes - Vehicle is assigned as a spare N=No- Vehicle is not considered spare X=Not applicable
V17	62	Alpha	1	Air Conditioning	A Mnemonic Code to indicate if vehicle is or is not air conditioned.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE					
		PAGE 5 OF 15			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V18	63	Alpha	1	Air Conditioning (Continued) Power Lift Gate	Y=Yes - Vehicle is Air-Conditioned N=No - Vehicle is not Air-Conditioned X=Not Applicable A Mnemonic Code to indicate if vehicle is equipped with an automatic Lift Gate. Y=Yes - Vehicle is equipped with Automatic Lift Gate N=No - Vehicle is not equipped with Automatic Lift Gate X=Not Applicable
V19	64-68	Numeric	5	Maximum Gross Vehicle Weight	MGVW is the weight of the vehicle plus its maximum carrying capacity. Expressed in pounds, MGVW is a mandatory Data Field for truck vehicles only, i.e., Classification Code 60-70-80 Series.
V20	69	Numeric	1	Status Code	A one digit code to indicate the validity status of the vehicle. 1=Lost/Stolen 2=Condemned 3=Collision 4=Mechanical 5=Awaiting Tow 9=Valid
V21	70-75	Numeric	6	Status Date	Date last status action took place. Expressed - MMDDYY.
V22	76-96	Alphanumeric	21	Key Numbers	Identifies the manufacturers. Identification Number for

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOW	CODING
		TYPE	SIZE			
				Key Numbers (Continued)	Ignition Key: 76- Truck Key: 83-89 Gasoline Cap Key	
V23	97-99	Numeric	3	Vehicle Range	The lowest mile per gallon Range expected of vehicle.	
V24	100-105	Alphanumeric	6	License Plate Number	The state license plate number assigned to the vehicle. A mandatory data element for unmarked vehicles only. If CONFIDENTIAL, field is to be posted as "CONFID".	
V25	106-111	Numeric	6	Acquisition Date	Date vehicle was first put into service by the Motor Transport Division Expressed - MMDDYY.	
V26	112-116	Numeric	5	Acquisition Cost	The initial vehicle cost expressed in whole dollars.	
V27	117-120	Alpha	4	Vehicle Color	The vehicle color as defined by the manufacturer.	
V28	121-123	Numeric	3	Average miles per gallon this tank.	The computer average miles per gallon from the time of the last fuel dispensing. Computation: V30 minus V31 giving miles driven Miles driven ÷ V47 = V28 Expressed to the tenth.	
V29	124-126	Numeric	3	Average miles per gallon life	Vehicle life is defined as beginning with the "startup mileage" (V32 which is the point in time when the vehicle first fueled under the automated system. The computation is:	

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE		PAGE 7 OF 15			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V30	127-131	Numeric	5	Average miles per gallon life (Continued) Current Odometer Reading	V30 minus V32 giving life miles Life miles + V61 = V29. The Current Odometer Reading entered as variable data at the terminal prior to dispensing fuel.
V31	132-136	Numeric	5	Last Odometer Reading	The odometer reading at the time of the previous fuel dispensing.
V32	137-141	Numeric	5	Startup Odometer Reading	To be used the first time fuel is dispensed in the automated fuel dispensing system. Startup odometer reading is to be considered as the beginning of the vehicle life for system purposes.
V33	142	Numeric	1	No Odometer Reading/Hour Meter Flag	A code indicating if the vehicle is not required to report odometer reading or if the vehicle has an hour meter as opposed to an odometer. 0=No odometer required 1=Hour meter
V34	143-146	Numeric	4	Month 1 - Miles Driven	
V35	147-150	Numeric	4	Month 2 - Miles Driven	
V36	151-154	Numeric	4	Month 3 - Miles Driven	
V37	155-158	Numeric	4	Month 4 - Miles Driven	
V38	159-162	Numeric	4	Month 5 - Miles Driven	
V39	163-166	Numeric	4	Month 6 - Miles Driven	

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V40	167-170	Numeric	4	Month 7 - Miles Driven	A thirteen month history of vehicle miles driven by month expressed in whole miles.
V41	171-174	Numeric	4	Month 8 - Miles Driven	
V42	175-178	Numeric	4	Month 9 - Miles Driven	
V43	179-812	Numeric	4	Month 10 - Miles Driven	
V44	183-186	Numeric	4	Month 11 - Miles Driven	
V45	187-190	Numeric	4	Month 12 - Miles Driven	
V46	191-194	Numeric	4	Month 13 - Miles Driven	
V47	195-198	Numeric	4	Current Gallons Dispensed	The total gallons dispensed during the current dispensing, expressed in tenths, i.e., 999V9.
V48	199-203	Numeric	5	Month 1 - Cumulative Gallons Consumed	
V49	204-208	Numeric	5	Month 2 - Cumulative Gallons Consumed	
V50	209-213	Numeric	5	Month 3 - Cumulative Gal. Cons.	A thirteen month history of the cumulative gallons of fuel consumed by month. Expressed to the tenth of a gallon, i.e., 999V9.
V51	214-218	Numeric	5	Month 4 - Cumulative Gal. Cons.	
V52	219-223	Numeric	5	Month 5 - Cumulative Gal. Cons.	
V53	224-228	Numeric	5	Month 6 - Cumulative Gal. Cons.	
V54	229-233	Numeric	5	Month 7 - Cumulative Gal. Cons.	
V55	234-238	Numeric	5	Month 8 - Cumulative Gal. Cons.	
V56	239-243	Numeric	5	Month 9 - Cumulative Gal. Cons.	

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE				PAGE 9 OF 15	
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V57	244-248	Numeric	5	Month 10 - Cumulative Gal. Cons.	Total gallons of fuel consumed by the vehicle starting from the date the vehicle first receives fuel under the automated system.
V58	249-253	Numeric	5	Month 11 - Cumulative Gal. Cons.	
V59	254-258	Numeric	5	Month 12 - Cumulative Gal. Cons.	
V60	259-263	Numeric	5	Month 13 - Cumulative Gal. Cons.	
V61	264-269	Numeric	6	Life Gallons Consumed	
V62	270-271	Numeric	2	Out of Service Count	The total number of times the vehicle has been out of service.
V63	272-274	Numeric	3	Days out of service	The total completed days the vehicle has been out of service.
V64	275-276	Numeric	2	Shop Number	Identifies the shop number that is repairing the vehicle if the vehicle is in an out of service status.
V65	277	Numeric	1	PM Code	0=PM is not required 1=4000 "A" PM 2=8000 "B" PM
V66	278-282	Numeric	5	Last PM Mileage	The vehicle odometer at the time of its last PM.
V67	283-288	Numeric	6	Last PM Date	Date the last PM was performed on the vehicle. Expressed: MMDDYY.
V68	289-293	Numeric	5	Mileage Next PM Due	The incremented mileage between PM's for each vehicle. Police Vehicles - 4000 miles.

FILE: VEHICLE

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V101	294-299	Numeric	6	<u>REPAIR COSTS</u> Air Conditioning, Heating and Ventilating System	Cost for repair as indicated. Includes all fans, hoses, thermostats, ductwork, etc., associated with the environmental control of the vehicle cab.
V102	300-305	Numeric	6	Cab and Sheet Metal	Includes all cab and sheet metal required to cover the major vehicle components. This category includes all integral bodies and pickup type beds normally supplied by the vehicle manufacturer. It also includes windshields, glass, reflectors, mirrors, seats and interior cab equipment. It does not include special bodies such as pumps and containers.
V103	306-311	Numeric	6	Instrument and Gauges	Includes all instruments, gauges and warning devices.
V111	312-317	Numeric	6	<u>CHASSIS</u> Axles Front - Non-Driven	Begins at, but does not include, the front springs and includes all components up to but not including the wheel bearings.
V112	318-323	Numeric	6	Axles Rear - Non-Driven	Begins at, but does not include, the rear springs and includes all components up to but not including the rear hubs and bearings.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE		PAGE 11 OF 15			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V113	324-329	Numeric	6	Brakes	Begins at the brake pedal and includes all plumbing, valves, air compressor and controls up to and including the brakedrums.
V114	330-335	Numeric	6	Frame	Includes all structural members of the frame including the bumpers and necessary brackets and mounts required for attaching components. However, suspension brackets are not included as part of the frame.
V115	336-341	Numeric	6	Steering	Begins at the steering wheel and includes all steering components up to, but not including the spindle or steering knuckle.
V116	342-347	Numeric	6	Suspension	Begins with, and includes, the brackets attaching the suspension to the frame and includes the parts necessary to attach the suspension to the axle.
V117	348-353	Numeric	6	Tires	Includes only the labor and material required to repair and change tires and tubes actually mounted on a vehicle. It is not intended to cover new tires or tubes or work performed on tires which are not mounted on a vehicle.
V118	354-359	Numeric	6	Wheel, Rims, Hubs, and Bearings	Includes only wheels, rims, hubs, wheel bearings and seals.
V119	360-365	Numeric	6	Automatic Lubricator	Includes control system, necessary plumbing, wiring, fittings and fasteners.

FILE: VEHICLE

NYCFC FUEL MONITORING SYSTEM
FILE DEFINITIONS

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FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V121	366-371	Numeric	6	<u>DRIVE TRAIN</u> Axle Driven - Front Steering	Includes the axle assembly beginning with the front spring pad through, but not including the wheel hub and bearings, and includes the differential drive flange or yoke.
V122	372-377	Numeric	6	Axle Driven - Rear	Begins at, but does not include, the rear springs, and includes all components up to but not including the wheel hub and bearings. It includes the differential drive flange or yoke.
V123	378-383	Numeric	6	Clutch	Includes all clutch drive or driven members including the controls. It does not include the flywheel.
V124	384-389	Numeric	6	Drive Shaft(s)	Includes all drive shafts, universal joints and support bearings between the component drive flanges or yokes.
V125	390-395	Numeric	6	Power Take Off	Includes the following types of power take off units and all related components: front driver, flywheel driven, transmission driven, auxiliary transmission driven.
V126	396-401	Numeric	6	Transmission - Main - Standard	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear flange or yoke.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE					
		PAGE 13 OF 15			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V127	402-407	Numeric	6	Transmission - Main - Automatic	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear flange or yoke.
V128	408-413	Numeric	6	Transmission - Auxiliary and Transfer Case	Includes the transmission case, cover and all internal parts and controls. Begins with the main drive gear and ends at the rear output shaft flange.
V131	414-419	Numeric	6	Charging System	Includes all components and wiring necessary to the charging of the vehicle. It does not include either the battery or gauges.
V132	420-425	Numeric	6	Cranking System	Includes the starting motor, necessary piping, wiring, relays and switches (excluding combination ignition or accessory switches) including the system power source which is normally a battery. The cranking system includes both electrical and air operated systems.
V133	426-431	Numeric	6	Ignition System	Begins with the ignition switch and includes all components through the spark plugs. It includes all components and wiring in both primary and secondary circuits.
V134	432-437	Numeric	6	Lighting System	Includes all wiring, bulbs, switches and wiring harness necessary to illuminate the vehicle.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE					PAGE 14 OF 15
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				<u>ENGINE SYSTEM</u>	
V141	438-443	Numeric	6	Air Intake System	Includes all items between the air inlet port through the intake manifold (excluding carburetor). It does not include the air cleaner. Included also are blowers and superchargers.
V142	444-449	Numeric	6	Cooling System	Begins with the radiator and covers all components up to and including the water pump. Also includes water manifold and temperature control devices.
V143	450-455	Numeric	6	Exhaust System	Begins with the exhaust manifold and extends through the end of the tail pipe.
V144	456-461	Numeric	6	Fuel System	Includes the fuel tank through the carburetor or fuel nozzle and covers all lines, pumps, filters and controls.
V145	462-467	Numeric	6	Power Plant	Includes the basic power plant and entire power plant lubrication system. It does not include any of the above systems.
				<u>ACCESSORIES</u>	
V151	468-473	Numeric	6	General Accessories	Includes such items as hubdometers, tachometers, etc.
V152	474-479	Numeric	6	Electrical Accessories	Includes clocks, batteries and battery boxes for auxiliary equipment.
V153	480-485	Numeric	6	Expandable Items	Includes such items as mud flaps, chains, flares, fire extinguishers, etc., which are not normally considered as part of vehicle maintenance.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: VEHICLE		PAGE 15 OF 15			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
V154	486-491	Numeric	6	Horn and Mounting	Includes all wiring, piping, controls and mounting devices.
V155	492-497	Numeric	6	Power Tail Gate/Lifting Devices	Includes the platform plus all necessary attachments and controls. Includes mast fork, plus all necessary plumbing, attachments and controls.
V156	498-503	Numeric	6	Radio Equipment	Includes radios and two-way communication devices.
V157	504-509	Numeric	6	Spare Wheel Mounting	Includes all brackets, mounting plates and security devices.
V158	510-515	Numeric	6	Winches	Includes all controls, wiring, etc., related to the winch and its use.
V159	516-521	Numeric	6	Vehicle Coupling System	Includes all vehicle coupling devices, controls and necessary mounts. It includes the 5th wheel and spindle hooks.
V161	522-527	Numeric	6	<u>SPECIAL BODIES</u>	This category is reserved for special bodies that are not normally supplied by the vehicle manufacturer.
V165	528-533	Numeric	6	<u>SPECIAL APPLICATIONS</u> Hydraulic Systems	Includes those hydraulic systems not otherwise specified.
V163	534-539	Numeric	6	Special Police Equipment	Includes sirens, lights and fire extinguishers.

FILE: DELIVERY

NYCPD FUEL MONITORING SYSTEM
FILE DEFINITIONS

PAGE 1 OF 4

FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
D	1	Alpha	1	File Identifier	"D" identifies the Delivery File
D01	2-7	Numeric	6	Actuator Card Number	A serialized number magnetically encoded in the delivery card for uniquely identifying each in-ground tank.
D02	8-10	Numeric	3	Agency Code (NYCPD-056)	Uniquely identifies each agency within the New York City Government. Codes are defined in the Agency Code Table attached. Agency codes were taken from the integrated financial management systems manual, appendix "C" pages C1-C5 dated March 1, 1977.
D03	11-15			Record ID	
	11-14	Alpha Numeric	4	Command	A mnemonic code which defines the lowest organizational level to which a tank is controlled.
	15	Numeric	1	Tank Number	A numeric identifier for each in-ground tank at each command location.
D04	16	Numeric	1	Pump Number	Identifies the pump number at the command location.
D05	17-21	Numeric	5	Tank Capacity	The total capacity of the in-ground tank. Expressed in whole gallons.
D06	22	Numeric	1	Product Type	A numeric code indicating the type of fuel used in in-ground tank. 1-Regular 2-Premium 3-No Lead 4-Diesel 5-Oil

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: DELIVERY		PAGE <u>2</u> OF <u>4</u>			
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
D07	23-28	Numeric	6	Current Gallons Delivered	The number of gallons at the time of the most recent delivery.
D08	29-35	Numeric	7	Month-to-Date Gallons Delivered	The cumulative gallons of fuel delivered for the current month.
D09	36-43	Numeric	8	Year-to-Date Gallons Delivered	The cumulative gallons of fuel delivered for the current year.
D10	44-45	Numeric	2	Month-to-Date Delivery Count	The number of times delivery is made to this tank for the current month.
D11	46-48	Numeric	3	Year-to-Date Delivery Count	The number of times delivery is made to this tank for the current year.
D12	49-54	Numeric	6	Month-to-Date Gallons Dispensed	The cumulative total gallons dispensed during the current month. Expressed in whole gallons.
D13	55-58	Numeric	4	Month-to-Date Transaction Count	The cumulative total dispensing transactions that have taken place from this tank during the current month.
D14	59-65	Numeric	7	Year-to-Date Gallons Dispensed	The cumulative total gallons dispensed from this tank during the current calendar year.
D15	66-70	Numeric	5	Year-to-Date Transaction Count	The cumulative total dispensing transactions from this tank during the current calendar year.
D16	71-75	Numeric	5	On-Hand Balance	The current gallons on-hand at any given time. Expressed in whole gallons.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: DELIVERY					PAGE 3 OF 4
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
D17	76-79	Numeric	4	Reorder Point	The gallon point at which fuel should be reordered for this tank. When reorder point is reached, it will automatically generate a reorder at the control center.
D18	80-82	Numeric	3	Shutdown Point	The gallon point at which the fuel pump(s) are automatically shutdown to prevent drawing sludge or water from the tank bottom.
D19	83	Numeric	1	Call Flag	A tickler code to show the number of times the vendor has been called for delivery to this tank.
D20	84-87	Numeric	4	Call Time	The time the first call was made to the vendor requesting delivery to this tank. Expressed in military time. Computer generated.
D21	88-93	Numeric	6	Call Date	The date the first call was made to the vendor requesting delivery to this tank. Expresses MMDDYY.
D22	94-97	Numeric	4	Delivery Time	Computer generated time emitted at the time the delivery transaction is made.
D23	98-103	Numeric	6	Delivery Date	A computer generated date emitted at the time the delivery transaction is made.
D24	104	Numeric	1	Status Code	Codes indicating the operational status of the pump.

NYCPD FUEL MONITORING SYSTEM FILE DEFINITIONS					
FILE: DELIVERY				PAGE 4 OF 4	
FIELD ID	FILE POS.	FIELD		TITLE	DEFINITION & ALLOWABLE CODING
		TYPE	SIZE		
				Status Code (Continued)	6=Pump On Line 7=Pump Off Line 8=Pump Shutdown Note: When pump is shutdown as a result of reaching the shutdown point (D18) a Delivery Transaction will automatically put the pump On Line (Code 6).
D25	105-110	Numeric	6	Status Date	Date status code was last changed. Expressed MMDDYY.
D26	111-115	Numeric	5	Inventory Adjustment	+ or - gallon adjustment to the in-ground inventory expressed S9999.
D27	116-121	Numeric	6	Master Meter Reading	Will be used to check inventory in tank vs Fuel Dispensed vs Master Meter on the pump.

SAMPLE OF HOST COMPUTER FILE REPORT CAPABILITY

- Vehicle Distribution - By Command
- By Borough
- By Bureau
- Fleet Strength - By Class Within
- By Command
- By Borough
- By Bureau
- Vehicle Down-time - By Make - Model - Year Within
- By Command
- By Borough
- By Bureau
- Vehicle Replacement
Projection - By Classification Cost
- Vehicle Comparison - By Make - Model - Year
- Vehicle Utilization - By Class
- By Time/Mileage Parameters
- By Time/Fuel Useage
- Repair Cost - By Class - Make - Model - Year
- Cost By Repair Category
- Special Feature
Report - Air Conditioning, Power Tail Gates, Other
- Fuel Useage - By Vehicle - Out of Range
- By Command
- By Borough
- By Bureau
- By Classification Private/Individual

Appendix F

SYSTEM SPECIFICATIONS
AND
CHANGE ORDERS

SPECIFICATIONS
FOR FURNISHING ALL LABOR AND MATERIAL
NECESSARY AND REQUIRED FOR
INSTALLATION OF AUTOMATED VEHICLE
FUELING SYSTEM FOR VARIOUS
POLICE PRECINCTS
LOCATED IN
FIVE BOROUGH
CITY OF NEW YORK*

*Pages 1-34 are City of New York General Conditions Governing
All Contracts.
Page 53 was skipped in numbering.

SECTION NO. 1
SPECIFIC REQUIREMENTS

The "General Conditions Governing All Contract" shall apply to all work.

1. Scope of Work

- a) Installation of an automated on line fuel dispensing and accounting system to serve the City-wide vehicle fuel pumping stations of the Police Department, City of New York.

b) Sequence of Contract

The contract work will be done by Boroughs.

Phase No. 1	-	Queens
Phase No. 2	-	Bronx
Phase No. 3	-	Manhattan
Phase No. 4	-	Brooklyn
Phase No. 5	-	Staten Island

- * See Change Order C-1, Item 25

Contractor must install all terminals in one phase before proceeding with the next phase. Contractor can only bring up the next phase after the previous phase is operational.

c) Specifications Sections

Following is a brief outline of the work to be done under the contract.

Section No. 1	-	Specific Requirements
Section No. 2	-	Fuel Dispensing System
Section No. 3	-	Pump location and sketches
Section No. 4	-	Test and acceptance.

- d) The Contractor, before bidding, shall verify all dimensions and conditions in the field for the purpose of including in his proposal any allowance necessary to take care of contingencies or conditions affecting the completion of the work shown or specified. No allowance shall be made by the City if the contractor fails to make such examination.

2. Scope of Work

The work of this section shall consist of furnishing all labor, materials, equipment and appliance necessary and required to completely execute the "Specific Requirements" described herein.

3. Related Work Not In Contract

Transmission lines to be leased from the New York Bell Telephone Company by the City.

4. Notification

- a. The Contractor shall notify the Commissioner at least 48 hours in advance of the time he intends to start work. Notice shall also be given by the Contractor upon completion of his work that he is ready for test as required in the "General Conditions Governing All Contracts".

5. Supervision

- a. The Contractor shall provide a competent supervisor, who shall be at P.D. Central Repair while work is in progress.

6. B.G.E. Job Number

- a. The B.G.E. job number for this Contract is given in the "General Conditions Governing All Contracts".

7. Bulletins and Sketch Drawings

- a. Bulletins and Sketch Drawings shall be submitted as specified under the "General Conditions Governing All Contracts".

8. Shop Drawings and Samples

- a. Procedure: The procedure for submitting shop drawings and samples for approval is given under the "General Conditions Governing All Contracts".
- b. Drawings To Be Submitted: The Contractor shall submit for approval, among others, shop drawings of all equipment to be installed.

9. Samples

- a. Procedure: Samples shall be submitted in accordance with the "General Conditions Governing All Contracts".
- b. Samples To Be Submitted: The samples to be submitted for approval shall include the following materials, fittings, devices and appliances:
 - (1) Cable and Wire.
 - (2) Conduit, and Fittings.

(3) Electrical Devices and Appliances.

(4) Outlet Boxes and Covers.

(5) Receptacles and Plugs.

(6) Switches and Circuit Breakers.

(7) Pressure Connectors.

(8) Fuses.

- c. All Other Samples: Samples of any equipment may be required if deemed necessary to establish compliance with the intent of the Specifications, and will be requested by the Commissioner.

10. Schedule of Materials, Fittings and Equipment

- a. A schedule of materials, fittings and equipment shall be submitted for approval, in sextuplet. This schedule should show quantity, make, catalogue number and finish of all materials.

11. Inspection

- a. Before submitting a proposal for the work, the Contractor shall inspect the site and examine any and all adjoining structures and properties for the purpose of including in his proposal any allowance necessary to take care of contingencies or conditions affecting the completion of the work as shown or specified. No allowance shall be made if the Contractor fails to make such examination.

12. Intent of Specifications and Sketches

- a. This specification is not intended to describe nor the sketches to show every conduit, fitting or appliance. The Contractor shall furnish and install all equipment, accessories, supports, connections, fittings, testing, adjusting, etc., as herein specified or required to make the various systems complete and ready for proper operation. Any item or work called for in the specification but not shown on the sketches, or vice versa, shall be furnished and installed as items both specified and/or shown.
- b. All wires, conduit, given are minimum sizes. If these sizes are not available the next larger size shall be installed without extra cost to the Owner.

13. Painting

- a. All exposed conduits, boxes, cabinets, junction boxes and all other surfaces of equipment furnished under this Contract shall be painted as

required by the "General Conditions Governing All Contracts". This shall apply to painted, baked on, or integral metal finishes.

14. Balancing of Load

- a. Special care shall be exercised by the Electrical Contractor in balancing all loads on phases, mains, feeders, sub-feeders, etc.

15. General Conditions Governing All Contracts

- a. The Contractor shall thoroughly familiarize himself with the "General Conditions Governing All Contracts".

- b. The Contractor shall give particular attention to the following items in the "General Conditions Governing All Contracts" and carry out their requirements in the performance of his work:

- (1) Approval of materials and drawings.
- (2) Tests.
- (3) Temporary Structures.
- (4) Sleeves and Hangers.
- (5) Cutting and Patching.
- (6) Scaffolding and Ladders.
- (7) Hoists and Hoistways.
- (8) Protection of Equipment.
- (9) Electrical Installation Procedures.
- (10) Approval of Materials and Manufacturers.
- (11) Information to Suppliers.
- (12) Responsibility for Care and Protection of Equipment.
- (13) Removal of Rubbish.

16. Cutting and Patching

- a. The Contractor shall perform all cutting and patching required by the installation of his work, as defined in the "General Conditions Governing All Contracts" and as indicated on the Drawing. He shall assume full responsibility for the work and make all arrangements and pay all charges to other

trades that he may find necessary to use, due to jurisdictional requirements.

17. Interruption of Fuel Service

- a. Where the work makes temporary shut-down of individual fuel pumping locations unavoidable the vendor shall confer with the Police Department's representative to schedule the shut-down to minimize interference with established operational routine.
- b. The contractor shall arrange to work continuously including overtime if required to assure that services will be shut-down only during the time actually required to make the necessary connections to existing work.
- c. In no case will the shut-down of fuel pumping locations exceed the number and locations approved by the Police Department representative. Ample notice shall be given to permit the Police Department to institute alternate procedures during the shut-down period.

18. Evening and Weekend Work

- a. All cutting and chopping in floor, wall or ceiling surfaces, required for any installation, shall not interfere with normal operation of the building in working hours.
- b. Any work which may interfere with normal operation shall be done in the evening or during the weekend.
- c. Weekend or evening work shall be performed at the Contractor's expense and at no extra cost to the City.
- d. The Contractor shall obtain permission from the building custodian at least forty-eight hours in advance of performing any evening or weekend work.

19. Installation

All fuel dispensing equipment shall be installed in strict accordance with the manufacturer's instructions and wiring diagrams, and the latest Rules and Regulations of the Board of Standards and Appeals.

20. Acceptance Test

Upon completion of the system, a satisfactory test of the entire system installation shall be made by a factory trained representative of the manufacturer who,

upon completion of such test shall file a letter indicating that the system(s) functions and complies to these specifications.

21. Certificates

All certificates of inspection required by all Agencies having jurisdiction for the system installation in this Section shall be the responsibility of this Contractor, as to their acquisition and processing.

22. Instruction Manuals

This Contractor shall provide three complete sets of all service notes, instructions books, installation and schematic diagrams pertaining to system equipment and operation, resetting etc. to the representative of the Commissioner.

23. Guarantee

All apparatus shall be guaranteed to be free of inherent mechanical or electrical defects in accordance with the "AGREEMENT" of this Contract.

24. Instructions to Vendors for Preparing and Submitting Proposals

The instructions included in this section describe the format for proposals and outline the approach for their development and presentation. These instructions are designed to insure the submission of information essential to the understanding and to the comprehensive evaluation of the system and equipment proposed. There is no intent to limit the content of proposals and these instructions permit the inclusion of any additional data or information the vendor deems pertinent.

a) Economy of Preparation

Proposals should be prepared simply and economically providing a straightforward and concise explanation of capabilities which will satisfy the requirements of this contract bid. Technical literature pertaining to hardware, software, and other elements of vendor support should be included as part of the proposal. Emphasis should be placed on completeness and clarity of content. This process makes provision for limited discussion with vendors. However, this will be limited to clarification of their proposals and will not permit revisions in content. All illustrative or pictorial material must be reproduced or presented in such a way as to be clearly legible for evaluation.

b) Vendor Cost to Develop Proposal

Cost for preparing and submitting proposals in response to this specification are entirely the responsibility of the vendor and will not be chargeable in any manner to the City.

c) Format of Vendor Proposal

Vendors responding to this bid must submit a proposal which provides a separate response to each and every numbered paragraph contained in the specification. All answers or responses must be complete and unequivocal in content. In instances where a response is not required or where material is not applicable to a specific proposal, the only acceptable responses will be, "no response required" or "not applicable".

* * * * *

- * Amended to reflect compliance with Section No. 2, Items 3 and 4.

SECTION NO. 2

FUEL DISPENSING SYSTEM

The "General Conditions Governing All Contracts" shall apply to all work under this Section.

1. Scope of Work

- a) The work under this section shall consist of furnishing and installing a "TURNKEY" automated on-line fuel dispensing computer driven and accounting system to serve the City-wide vehicle fuel pumping stations for the Police Department, City of New York.
- b) The vendor is expected to propose a fuel dispensing and accounting system. This will include the installation of all hardware and wiring. The vendor shall supply all labor, material, hardware, system design, software, programming and any pump modifications required.
- c) Vendor may use existing computer system 7, or provide his own alternate computer provided it can interface with the existing back-end equipment.

* Amended to use stand-alone IBM Series 1 supplied by vendor.

2. Competence of Vendors

The vendor must demonstrate prior expertise and industry experience to the satisfaction of the city in the development and installation of On Line Fuel Data Gathering and Monitoring Systems. This guide line considers the competence and reliability of the vendor to deliver, install, maintain, and support the hardware and software. The vendor must have a "Live" operational system currently in use and available to the city for inspection.

3. Program Overview

- a) The vendor's proposal shall be directed to the installation of a system in the five (5) Boroughs of the City of New York, controlled from a computer located at the Police Departments, Central Repair Shop in the Borough of Queens. The system shall be required to control the fueling of approximately 4,000 vehicles at 70 fueling stations by approximately 28,000 authorized personnel.
- b) The system bid must have "add-on" capabilities. It shall be possible to expand the basic system to control any additional fueling stations. The system shall be so designed that any expansion of the system shall not require abandonment or replacement of any part of the basic system.

- c) The system shall be relatively easy to operate by personnel who are not trained as professional computer systems operators. It must be fully automated and operate completely unattended 24 hours a day, 7 days a week. It must be user oriented free of the need for programmers. User interaction must be simple and straight-forward. The language structure must be easy to learn and use. New Users should be able to use the system within a week.

4. System Functions

The system at a minimum shall be capable of performing the following transactions.

- a) Control and Record fuel dispensing, automatically from the fueling locations.
- b) Input of dispensing transactions from Central Control.
- c) Record delivery of fuel by entry at the pump terminal or central control.
- d) Print reorder message at central control.
- e) Inventory Check Transactions.
- f) Shut down and activate pumps and/or locations.
- g) Record vehicles in/out of service from Central Control.
- h) Trouble messages at Central Control.
- i) Audible alarm and printed messages.
- j) Vendor's software must be capable of interfacing with city developed software residing on an IBM 370 host computer utilizing CICS.

* Item (j) not applicable.

5. Description of the Functional Requirements of the System

- a) **General:** The following system description is offered to delineate the required functions and capabilities. The vendors are invited to offer alternative methods of performing them, in order to attain, at a minimum the desired results.
- b) **Dispensing Fuel:** The Police Department intends to use plastic cards with an encoded magnetic stripe as an input medium. The system shall operate with two (2) cards, one for personnel identification (Operator Card), and the other for vehicle identification (Vehicle Card), for fueling operations. Other cards specifically encoded for different purposes will be required to record each transaction, such as:
 - (a) Delivery Cards
 - (b) Inventory Cards
 - (c) Master Override Cards

* See Change Order C-1, Item 22.

- c) In order to dispense fuel at a pumping station, the operator will be required to "dial" or "key" in as variable data the current vehicle mileage on the pump terminal dials or key pad, this will be subject to an instantaneous reasonable mileage validity check from stored information. The operator will then insert the vehicle and operator cards in the card reader on the terminal. The cards will be checked for validity at the terminal and/or computer. When these conditions are successfully met the equipment will automatically activate the selected pump for fuel dispensing by the operator. When fueling has been completed the equipment must deactivate the pump and record and store the entire fueling transaction.
- d) In addition to capturing the operator and vehicle identification and vehicle odometer reading, the equipment must automatically include in the transaction record the: transaction number, date(month/day), time (military), location, product, and total gallons dispensed to the tenth of a gallon.
- e) The entire record will be stored in a mass storage device for further sorting, computation, and re-reporting. A hard copy report of transaction for a given period must be available for call up at the central control unit. The system must be capable of up-dating a permanent record which in turn will be used for on-line to-date inquiries from a city-owned host computer.
- * *Amended to delete and add: All transactions to be written to disk or diskette for printing on as-required basis.*
- f) The system must provide the ability to input all transactions from the Central Control room terminal keyboard. In the case of dispensing transactions initiated at the central control key board, the program must recognize the input location and not perform a reasonable mileage check.
- g) It is the intention to maintain fueling control records for every fuel dispensing, delivery and inventory transaction and therefore each manual recording will be input from the keyboard when a pump or remote terminal is inoperative, after the fact.
- h) Reorder and Shutdown Point: Upon completion of each and every dispensing transaction the system must automatically update and test the inventory at the location to determine if the reorder point or shut-down point has been reached for that dispensing location.
- i) Reorder: As each dispensing transaction occurs, the inventory must be automatically updated with the gallons pumped, the on-hand gallons computed

and the results tested to determine if the on-hand balance is equal to, or less than the reorder point but greater than the shut-down point for that location. When this condition occurs, a reorder flag must be placed in the file and be included in the reorder report that will be printed several times a day automatically and on demand listing all locations that have reached their reorder and/or shut-down point.

- j) Shutdown Point: Again with every dispensing transaction at a location the inventory must be tested and updated to determine if the shutdown point has been reached (10% of capacity) and when this condition occurs, the pump is to be automatically shutdown and a shutdown flag placed in the file with a notification message printed at the control center displaying the reason for the shut down condition and the on-hand balance for that location. Under this shut down condition, reactivation should only take place when a Delivery Transaction is entered into the system at the affected location or at central control.
- k) Delivery Recording and Reporting: Fuel delivery reporting at a fueling station will be accomplished by the use of a uniquely formatted "Delivery Card" that will be used in place of the Vehicle Card in the terminal at the pumping station. The use of this card in conjunction with an operator card will signal a Delivery Transaction. The number of gallons delivered will be entered on a manual key pad of dials and immediately update the Delivery File and if the pump has been shut down because it had reached the shutdown point this transaction would automatically reactivate the pumps. A message will be displayed at the control center including the number of gallons delivered and the new on-hand balance and the current status of the pumps at the location. The same procedure will occur if the delivery is entered at central control. System shall be designed to prevent entries of deliveries above the capacity of the location or tank.
- l) In/Out of Service Transactions: The central Control Center shall be capable of changing the operational status of vehicles. It shall have the capability of notifying the computer when a vehicle is In or Out of Service, restrict fueling based on the vehicle status.
- * See Change Order C-1, Item 7.
- m) Inventory Transaction: Checking the system inventory against a physical dipping of the tanks shall be accomplished by the use of a specially encoded "Inventory Card". The card will be entered in conjunction with the Operator Card of the person conducting the inventory at the location tested. A message displaying the current inventory for that location according to the system shall be printed at Central Control to be compared

with the dipping results. Central Control shall be capable of updating or changing inventory.

* Amended to delete "Inventory Card" use and procedure.

- n) Central Control Capabilities: In addition to the above the Central Control shall be capable of up-grading, entry input, changes and other functions' required to control the system. This shall be accomplished by use of a C.R.T. with a menu type format and hard copy print-out if requested.

6. Validity Checking, Lockout and Operational Features.

At a minimum, certain validity checks must be made both on the operator and vehicle cards on each and every attempt to gain access to the fuel pumps.

- a) Input Card Validity Check: The system must have the capability of rejecting any card which does not contain the proper security code. If a card is accepted into the system it must be checked by the computer to insure the card is, in fact on the file, is legal and the operator and/or vehicle is permitted to receive fuel. The encoded data must contain a check which will, when checked by the computer determine whether the data has been properly read from the card and insure communication integrity.
- b) Odometer Check: The system must have the capability of the entry of a six digit odometer reading at the pumping stations and once the data is received perform a reasonableness check based on a predetermined vehicle range and flag those records that fall outside the predetermined range for exception reporting purposes. In this case, fuel will be dispensed in the second attempt to activate the pump.
- c) Vehicle Gallon Limitations: The system must have the capability of testing gallon limitations and not permit fuel dispensing in excess of a predetermined limitation for that vehicle, usually its fuel tank capacity.
- d) Time Shutdown: Pumps must have a built-in predetermined automatic time shutdown to prevent accidental excessive spillage. It shall also shutdown if the pumping does not start in a reasonable time after the pump is activated by the system.
- e) Response Time: The time required from a successful card read to pump actuation should not exceed (4) seconds if all remote terminals are used simultaneously.
- * See Change Order C-1, Item 20.
- f) Communication Lines: The system should operate over standard type 3002, voice grade, 4 wire, full duplex

multidrop telephone lines at a rate of 1200 baud.

- g) System Failure: Malfunctions shall be indicated by an "OFF" indicator on the remote terminal and trouble messages at the control center with some indication or diagnosis of the problem. System failures should prohibit the dispensing of fuel at only the locations affected by the failure. An override switch should be included in the remote terminals to permit manual operations. A message will be displayed at the central center when the override switch is actuated at any location, accompanied by an audible alarm.
- * See Change Order C-1, Item 15.
- h) Flexibility: The system must allow for the possibility of program modifications as required for the addition of terminals, memory, input/output devices, online capabilities. The system shall be such that expansion can be accomplished with existing software and with a minimum of interruption to the existing program.
- i) Multi-Programming: The ability to handle programs (processes/tasks) on a priority basis. A program invoked by the operator should be interrupted by another program on real time clock.
- j) Priority Setting: The system must be controllable. System use will be allocated based upon assigned priority levels.
- k) Power Failure Provisions: The system shall provide a method of reloading the program into the computer in the event of power failure or other failures which may cause the program to become inoperational.

7. Hardware and Equipment

The vendor will supply and install all the equipment outlined in the following paragraphs. All equipment must be warranted for one (1) year from the date of final acceptance. In the event some of the equipment supplied does not carry a one year warranty the vendor will arrange for a service contract of the said equipment for the period beyond their warranty to the one year required.

- (a) Fuel Dispensing Terminals: The vendor will supply and install the number of fuel dispensing terminals required to control the dispensing of fuel at the seventy (70) locations. The terminals are to be weatherproof devices of high reliability which are tamper resistant and reasonably protected from vandalism. Terminal doors shall be equipped with a high quality lock or locking device subject to approval of the Police Department. They are to be constructed and finished in a workmanship-like manner. They shall

include card reader, dials or keypads, indicator lights, selector switches, operator instructions, override switch, and any other controls as may be required to perform the functions outlined in this specification.

- b) Installation: The terminals shall be installed in close proximity to the pumps controlled. They shall be installed to conform to all New York City Regulations that may apply. The installation of each terminal as to location must be approved by the Police Department.
- c) Pump Modification: The vendor shall install and wire into the pumps any and all equipment as may be required to measure the fuel dispenses to one tenth (1/10) of a gallon and activate and shut down pumps. If the vendor's equipment is not compatible with, or cannot use any or all of the pumps now installed at the fueling pumps, the cost of the required replacement pumps shall be included in the vendor's total bid.
- d) Actuator Cards: The vendor must furnish specially designed and properly encoded magnetic stripe cards with a signature block on the back side, of highest quality in the following amounts:

Vehicle Cards	10,000 each
Operator Cards	50,000 each
Master Vehicle Cards	250 each

- * See Change Order C-1, Item 11.

Representatives from Department of General Services and Police Department will confer with the successful vendor within 10 days after the award of contract to discuss and arrive at the design and artwork for the actuator cards.

- e) Computer Room Hardware: The vendor shall supply and install the following equipment at the Police Dept's central repair shop, to control, monitor, load input, generate reports, and generally run the system.
 - 1) Two (2) Cathode Ray Tube Terminals each with 1920 character display for use with IBM S/370 or S/370 compatible equipment.
Teletypewriter compatible.
12-inch rectangular screen..
Standard 24 line display with 80 character lines.
59 Key Keyboard.
RS 232c Interface

Full/Half duplex asynshronous operation.
Generate all ASCII CODES.
64 character display.
Data entry on progressive lines.
Complete Cursor Control.

Two (2) keyless line printers attached to the CRT
Terminals specified above to call-for and generate
reports from the host and front end computers, to
print at the rate of 150 cps.

One (1) thirty (30) character per second typewriter
terminal ASCII, buffered. This unit to receive
transactions from pumping stations, changing
pump/location status, receive error messages
and other functions concerned with the front end
portion of the system.

One (1) Color CRT Display Terminal equal to
model #8001G as manufactured by Intelligent
Systems Corp., of Norcross, GA.
19 inch Display Tube.
80 Character by 48 line page.
Eight (8) foreground colors.

This terminal to show a constant color display of
the system status on a location by location basis.
It will show at a minimum Location Identification,
Loc. Tank Capacity, Loc. Current Inventory, Loca-
tion Status (one of the following) a) On Line,
b) Off Mechanical Problem, c) Off No fuel, d)
Communications Problem, e) Pump In Override. It
will also indicate by a flashing signal when the
pump is actually in use. Monitoring 96 locations
via split screen format.

Color will indicate the different status conditions
for each location. Vendor will confer with the
Police Department at to color to be used for each
status situation.

All the above mentioned equipment to be installed
in Computer Room, Room 218, Central Repair Shop,
53-15 58th St., Woodside, New York 11377.

* For final List of Equipment see page ____.

- f) Inquire Terminals: The vendor will supply three (3)
Inquire CRT Terminals with twelve (12) inch rectangular
display tubes. The terminals will be hard wired to the
computer. They will be located in offices in the building
at which the front end computer is located, terminals
must contain interface RS232C to permit hard wire
hook-up to 2,000 feet from the computer.

The CRT's shall be located in the following rooms at the Central Repair Shop:

One in Room 205 - Director's Office

One in _____ - Central Computer Control

- g) Other Hardware: The vendor shall supply and install all other components ie., Pulsers, multiplexers, modems, etc. as may be required to support and operate the system.
- h) Environmental Requirements: The remote terminals and all equipment exposed to the ambient temperature shall operate efficiently within a temperature range of minus 20 degrees and plus 75 degrees Centigrade at 95 per cent relative humidity. The case of the RTU must be constructed to provide maximum protection from dust, water, corrosive materials, and seasonal condition.
- i) Spare Parts: The vendor shall supply spare parts for all internal components of the fueling terminals, CTUs, and Pump Installed Components. This supply shall be Ten Percent (10%) of the total number in use in the system. The spare parts will be replaced as used during the warranty period without charge. After the warranty period the vendor shall assure the availability of replacement parts for a period of ten (10) years. The vendor shall supply a price list and conditions of purchase or trade of parts.
- j) Repair Tools and Test Equipment: The vendor shall supply four (4) complete sets of special tools and test equipment required to effect repairs to be performed by the trained Police Department Personnel.

8. Fuel Monitoring System Report Requirements

The following report requirements are defined as a minimum requirement for the Fuel Dispensing System. These reports will be the responsibility of the vendor and will contain at a minimum the data elements defined and format and frequency will be subject to the approval of the Department of General Service and the Police Department.

- a) Daily Transaction Report: A transaction report will be displayed at the Central Control Unit each and every time a transaction is made. The report will define the type of transaction and will display:
 - a) Sequential Number of the Transaction
 - b) Date
 - c) Time (Military)
 - d) Actuator Card Numbers

- e) Gallons Pumped (Last 24 hours)
 - f) Number of Transactions (Last 24 hours)
 - g) Average Gallons per Transaction
- c) Fuel Billing Report: To generate a biweekly report to compare against vendor biweekly bills. This report will display the following data elements:
- Each delivery transaction by date and time within each location for the biweekly time period reported, i.e.,
- a) Location, Tank, and Product
 - b) Date and Time of Delivery
 - c) Number of gallons delivered
 - d) Operator Card Number of Department member who receipted for each delivery transaction
 - e) Total gallons delivered by product type for reporting period
 - f) Grand total gallons delivered for reporting period.
- d) Reorder Report: The Reorder Report should be automatically generated at scheduled intervals three (3) times daily:
- at 0800 each morning
at 1400 each afternoon
and again at 1630 daily
- it should display each location that has reached the reorder or shut down point and should display the following data elements:
- a) Location, pump, and fuel grade
 - b) Command
 - c) Gallons in Inventory
 - d) In ground capacity
 - e) The reorder point
 - f) Whether or not the pump has been shutdown because of insufficient fuel
 - g) The address and telephone number of the Command..
- e) Actuator Card Status Report: An inquiry report displaying the data record on file of either the Vehicle Record or Operator Record.

<u>LOCATION PHASE 1</u>	<u>NUMBER AND MAKES OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
100th Precinct 94-24 Rockaway Bh Queens 11693	(1) AO Smith	2- 550
101st Precinct 16-12 Mott Av. Queens 11691	(1) AO Smith	1- 550
103rd Precinct 168-02 91st Av. Jamaica 11432	(1) Tokheim	1- 550
104th Precinct 64-02 Catalpa Av. Queens 11227	(1) AO Smith	1-1500
105th Precinct 92-08 222nd St. Queens Village	(2) Gilbarco	1-2500
106th Precinct 103-51 101 St. Ozone Pk. 11417	(1) Bowser	1- 550
108th Precinct 5-47 50th Av. L.I.C. 1105	(1) AO Smith	2- 550
109th Precinct 37-05 Union St. Flushing 11354	(2) AO Smith	4- 550
110th Precinct 94-41 43rd Ave. Elmhurst 11373	(1) AO Smith	2- 550
111th Precinct 45-06 215th St. Bayside 11368	(2) AO Smith	2- 550
112th Precinct 68-40 Austin St. Forest Hills 11375	(2) AO Smith	4- 550
113th Precinct 167-02 Baisley Blvd Jamaica 11434	(2) AO Smith	4- 550
114th Precinct 34-16 Astoria Blvd Queens 11103	(2) AO Smith	4- 550

<u>LOCATION PHASE 1</u>	<u>NUMBER AND MAKES OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
Central Repair 53-15 58th St. Woodside 11377	(2) Bowser	2- 550
Highway Unit #3 198-15 Grand Central Pky. Queens, N.Y. 11462	(2) AO Smith	1- 550 1-2500

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PHASE NO. 2 - BRONX

<u>LOCATION PHASE 2</u>	<u>NUMBER AND MAKES OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
40th Precinct 257 Alexander Av. Bronx 10444	(1) Tokheim	1- 550
42nd Precinct 3rd Ave. & 160 St. Bronx 10456	(1) AO Smith	1-1500
43rd Precinct 900 Fteley Ave. Bronx 10472	(2) Tokheim	1-2500
45th Precinct 2877 Barkley Ave Bronx 10461	(2) AO Smith	1-2500
46th Precinct 2120 Ryer Ave Bronx 10457	(1) AO Smith	1-1500
47th Precinct 4111 Laconia Ave Bronx 10466	(1) AO Smith	4- 550
48th Precinct 450 Cross Bx Exp. Bronx 10457	(2) AO Smith	4- 550
50th Precinct 3450 Kingsbridge Av Bronx 10463	(2) AO Smith	5- 550
52nd Precinct 3016 Webster Av. Bronx 10467	(1) Bowser	1- 550

<u>LOCATION</u> <u>PHASE 2</u>	<u>NUMBER AND</u> <u>MAKE OF PUMPS</u>	<u>NUMBER AND</u> <u>CAPACITY OF TANKS</u>
Highway Unit #1 Unionport Rd. & Bx. River Pkwy. Bronx 10462	(2) AO Smith	1- 550 1-2500
Street Crime Unit Randall's Island New York 10035	(2) AO Smith	4- 550

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PHASE NO. 3 - MANHATTAN

<u>LOCATION</u> <u>PHASE 3</u>	<u>NUMBER AND</u> <u>MAKE OF PUMPS</u>	<u>NUMBER AND</u> <u>CAPACITY OF TANKS</u>
6th Precinct 233 W 10th St. New York 10014	(2) Tokheim	4- 550
7th Precinct 19½ Pitt St. New York 10010	(1) AO Smith	4- 550
13th Precinct 230 E. 21st St. New York 10010	(2) AO Smith	6- 550
Mid Town South 357 W. 35th St. New York 10001	(2) AO Smith	4- 550
17th Precinct 167 E. 51st St. New York 10017	(2) Tokheim	2- 550
Mid Town North 306 W. 54th St. New York 10019	(2) Tokheim	4- 550
20th Precinct 120 W. 82nd St. New York 10020	(1) AO Smith	4- 550
23rd Precinct 162 E. 102nd St. New York 10029	(2) AO Smith	4- 550
24th Precinct 151 W. 100th St. New York 10025	(2) AO Smith	2- 550

<u>LOCATION PHASE 3</u>	<u>NUMBER AND MAKE OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
25th Precinct 120 E. 119th St. New York 10035	(1) AO Smith	4- 550
26th Precinct 520 W. 126th St. New York 10027	(2) AO Smith	4- 550
28th Precinct 2271-89 8th Av. New York 10027	(2) AO Smith	1-2500
30th Precinct 451 W. 151st St. New York 10028	(2) AO Smith	4- 550
32nd Precinct 250 W. 135th St. New York 10030	(1) Bowser	2- 550
34th Precinct 180 Wadsworth Av. New York 10033	(1) Bowser	1- 550
Central Park Pct. 86th St. & Transv. New York 10024	(1) Bowser	2- 550
Police Headquarters 1 Police Plaza New York 10038	(2) Kene	2-1500

* * * * *

PHASE NO. 4 - BROOKLYN

<u>LOCATION PHASE 4</u>	<u>NUMBER AND MAKE OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
60th Precinct 2951 W. 8th St. Brooklyn 11224	(2) Tokheim	4- 550
61st Precinct 2575 Coney Isl Av. Brooklyn 11229	(2) AO Smith	1-2500

<u>LOCATION PHASE 4</u>	<u>NUMBER AND MAKE OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
62nd Precinct 1925 Bath Av Brooklyn 11214	(1) Tokheim	1- 550
63rd Precinct 1844 Brooklyn Av Brooklyn 11210	(1) AO Smith	1- 550
66th Precinct 5822 16th Av Brooklyn 11218	(1) Bowser	1- 550
67th Precinct 2820 Snyder Av Brooklyn 11226	(2) AO Smith	4- 550
68th Precinct 333 65th St. Brooklyn 11220	(2) AO Smith	4- 550
69th Precinct 9720 Foster Av. Brooklyn 11236	(2) AO Smith	2- 550
70th Precinct 154 Lawrence Av Brooklyn 11230	(1) AO Smith	4-1500
71st Precinct 421 Empire Blvd Brooklyn 11225	(2) Tokheim	1-2500
72nd Precinct 830 4th Av Brooklyn 11232	(2) AO Smith	4- 550
75th Precinct 1000 Sutter Av Brooklyn 11207	(2) AO Smith	2- 550
76th Precinct 191 Union St. Brooklyn 11231	(2) AO Smith	2- 550
77th Precinct 127 Utica Av Brooklyn 11213	(2) AO Smith	4- 550
78th Precinct 65 6th Av Brooklyn 11217	(1) Tokheim	1- 550

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<u>LOCATION PHASE 4</u>	<u>NUMBER AND MAKE OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
79th Precinct 263 Tompkins Av Brooklyn 11221	(2) Tokheim	4- 550
81st Precinct 30 Ralph Av Brooklyn 11221	(2) AO Smith	1-2500
84th Precinct 301 Gold St. Brooklyn 11201	(2) AO Smith	4- 550
88th Precinct 298 Classon Av Brooklyn 11205	(1) AO Smith	1- 550
90th Precinct 211 Union Av Brooklyn 11211	(2) AO Smith	4- 550
94th Precinct 100 Meserole Av Brooklyn 11222	(1) Tokheim	1- 550
Highway Unit #2 2900 Flatbush Av Brooklyn 11210	(2) AO Smith	2- 550

* * * * *

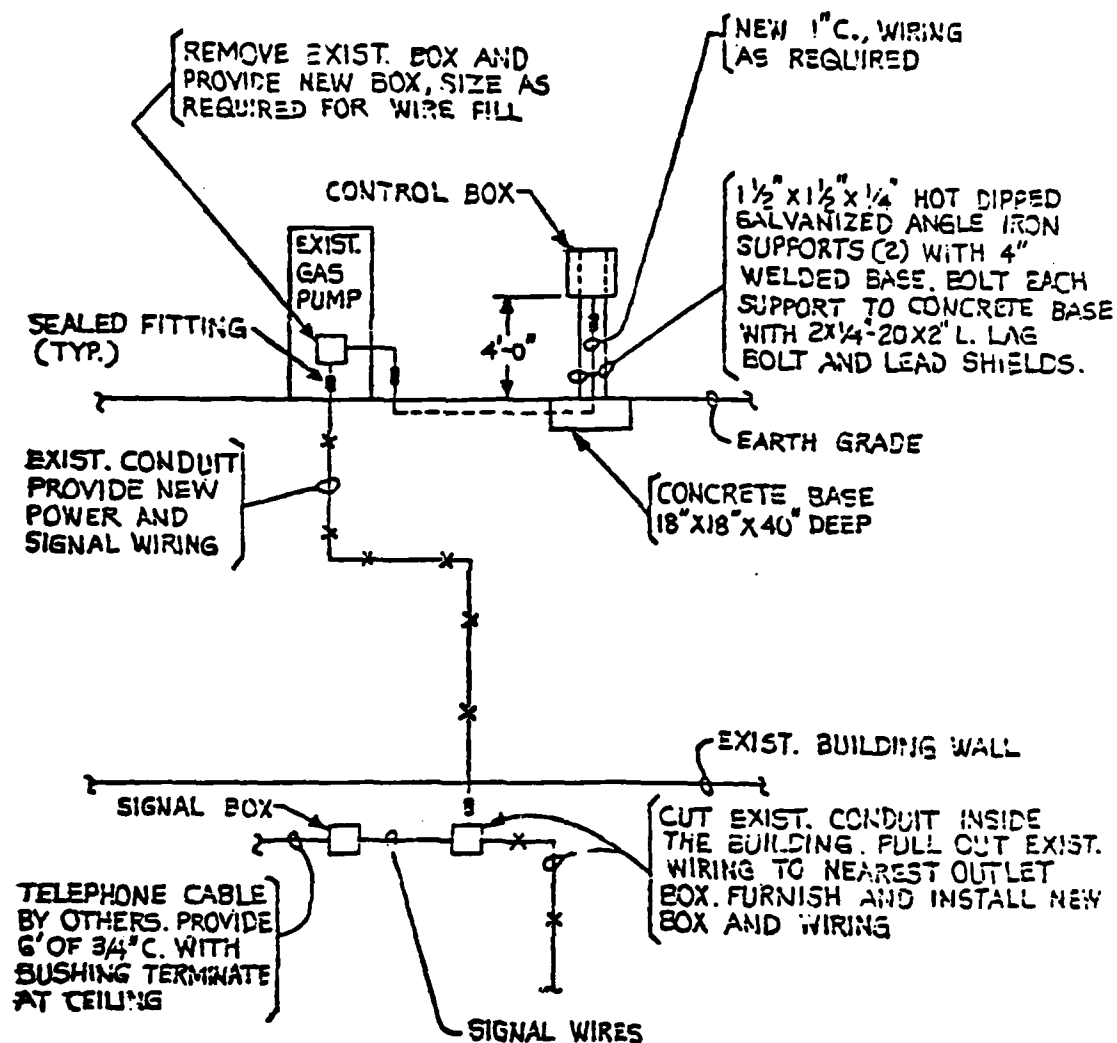
PHASE NO. 5 - STATEN ISLAND

<u>LOCATION PHASE 5</u>	<u>NUMBER AND MAKE OF PUMPS</u>	<u>NUMBER AND CAPACITY OF TANKS</u>
120th Precinct 78 Richmond Terr St. George 10301	(1) AO Smith	2- 550
122nd Precinct 2320 Hylan Blvd. New Dorp 10306	(2) AO Smith	4- 550
123rd Precinct 116 Main St. Tottenville 10307	(1) Tokheim	1- 550

* * * * *

NOTES FOR SKETCHES E-1 & E-2

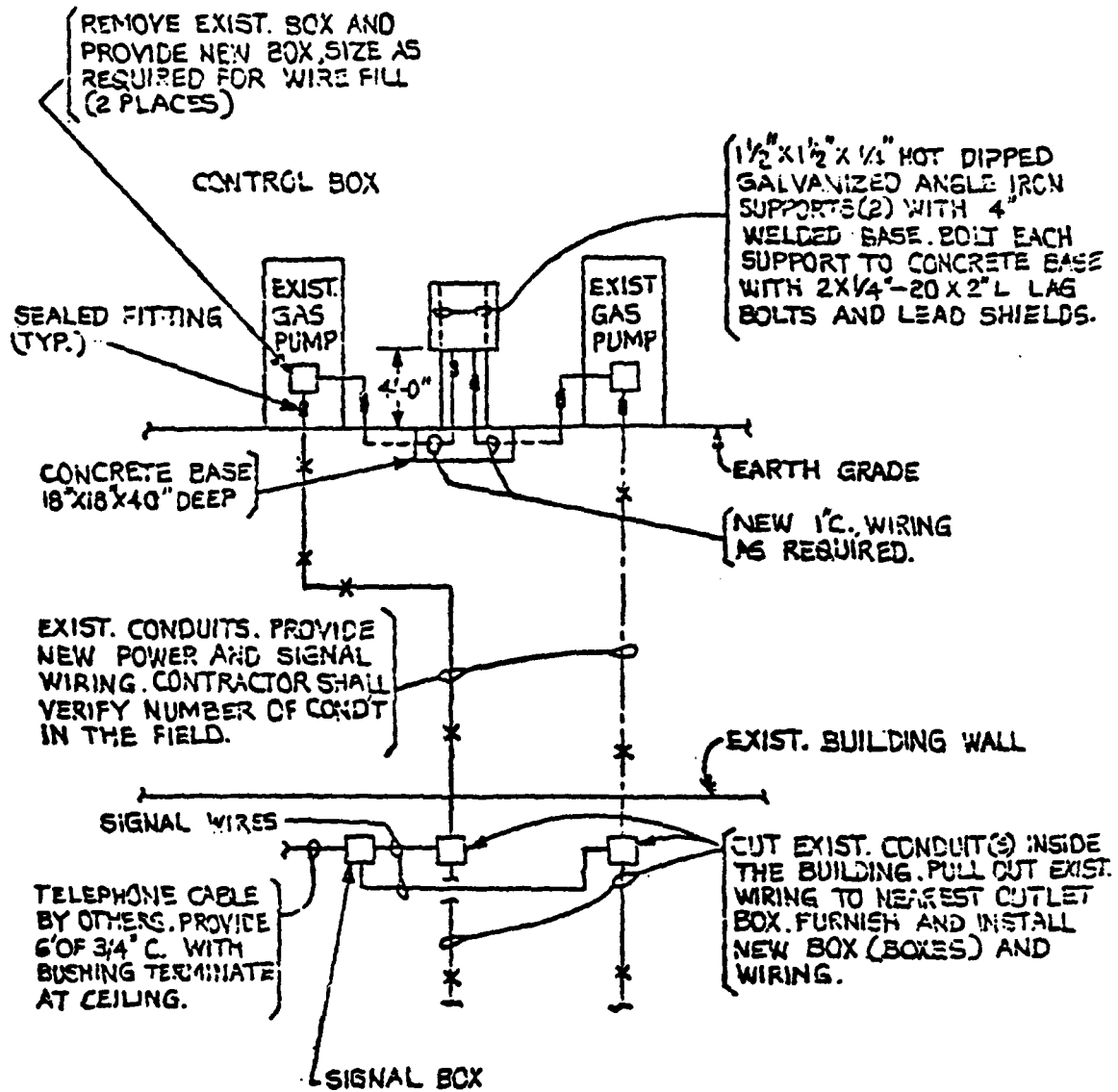
1. When contractor has to modify existing pump motors, he shall provide one spare motor with all modifications for every ten or less motors modified of each type.
2. Contractor shall submit a wiring diagram of proposed installation for approval. Diagram shall include all wiring, conduit, boxes, etc.
3. The installation shall be in accordance with all City codes having jurisdiction for hazardous location Class 1 explosion proof.
4. Provide #18 shielded cable for signal wiring. Bond shield at all boxes.
5. Outlet box size as per N.Y. Electrical code.
6. Contractor shall provide and install all wiring, conduit, fittings, explosion proof fittings, boxes and explosion proof boxes required for a complete installation at each gasoline pump location.



SINGLE GASOLINE PUMP INSTALLATION

NO SCALE

SKETCH E-1



DUPLEX GASOLINE PUMP INSTALLATION

NO SCALE

59 C

SKETCH E-2

SECTION NO. 4

TEST AND ACCEPTANCE

The "General Conditions Governing all Contracts" shall apply to all work under this contract.

1. Scope of Work

The work of this Section consists of furnishing all labor, materials, equipment and appliances necessary and required to perform all tests and adjustments to make the system operational.

2. Final Acceptance and Performance

- a) It is the responsibility of the contractor to install a complete and fully operational system meeting all of the performance specifications included in another section of these specifications. Before final payment the contractor will be required to perform system performance quality measurements in the presence of representative of the Police Department and Department of General Service, City of New York. The contractor shall furnish all test equipment necessary for the performance of the system test.

The measurements, and distortion measurements shall be recorded and submitted to the City as final proof of the system performance.

- b) At the conclusion of all initial tests and adjustments, the City shall be notified that the entire system fulfills the specifications and is ready for complete acceptance tests. The acceptance tests shall consist of the following:
1. The operation of the complete system, including all equipment shall be demonstrated.
 2. Objective tests are required to determine compliance with the specifications.
 3. All final "as built" drawings, run sheets, manuals, and documents shall be submitted.
 4. In the event further adjustment is required, or defective equipment is to be repaired or replaced, tests shall be suspended until repairs are completed.
- c) The equipment to be provided as part of this contract will be interconnected with existing equipment. All equipment is to operate together as a complete system.

3. Warranty

- a) The contractor shall warrant the complete operation of individual components and the complete system for a period of one year from final acceptance by the City. This Warranty shall include tubes and transistors and shall encompass parts and labor.
- b) In the event of a component failure, the contractor's designated representatives will be notified by the Police Department. The contractor is expected to have a qualified service engineer to repair the equipment within twenty-four (24) hours.

The defective equipment shall be repaired in the most expeditious manner and at no cost to the City. If an item requires more than twenty-four (24) hours for repair, the contractor shall provide another functioning unit until repairs are completed.

- c) The Warranty shall commence on the date of final acceptance. The contractor shall further warrant that he maintains an inventory of major replacement parts for the items included in these specifications.

4. Maintenance

As stated earlier under the section entitled "WARRANTY" the contractor is required to perform whatever maintenance necessary to insure a complete operating and functional system for a period of one year. In addition the contractor shall schedule a routine maintenance and system check-up six (6) months and one year after the system has been accepted by the City.

5. Inspection

Personnel from Department of General Services, Police Department, City of New York, or their authorized representatives, have the right to inspect the work and premises at any time during the installation. If the standards and specifications are not being met to the satisfaction of the City of New York, such deviations will be brought to the attention of the contractor who shall take the necessary corrective measures.

6. Drawings and Instruction Books

- a) The contractor shall furnish the following drawings after the installation has been completed:
 - 1. Functional diagram showing all signal paths, cable numbers and other detail for the complete installation.
 - 2. Detailed wiring and functional drawings of all data transmitting and receiving equipment.

- b) Two sets of instruction books for each item of equipment shall be provided. Instruction books shall include a material guide which shall contain replacement part numbers and description of all components used. Also included should be functional diagrams showing all test points, voltage readings and other detail for maintenance and operation of the equipment.

7. Instruction

The contractor shall provide a minimum of five (5) days instruction in the operation and maintenance of the components of the system. Such instruction should include, but not be limited to the following:

- 1. Overall system operation techniques.
- 2. Complete detailed instructions shall be provided to the Police Department technicians in trouble shooting, maintenance and repair of all equipment provided in the system.

8. Documentation

Documentation will cover all facets of the system including the various manuals provided by the manufacturers. All documentation should provide information in such depth that a system analyst having worked with the vendor can thoroughly understand the system.

* * * * *

- * See Change Orders C-1 through C-7 which reflect the following:

Revision of number of pumping stations to 68

Expansion of files and file formats

Provision of additional inquiry and display capability

Provision of additional report capability

Revision of card format

Addition of equipment

Addition of Motor Oil data

Back-up power supply for modems

Modifications to telephone lines

Provision of plastic card holders for vehicles

Provision of stanchions to protect remote terminals

Provision of duplicate colored CRT

Conduit installation

N.B.: The full documentation report clarifies the specification package and change orders thereto.

POLICE DEPARTMENT
CITY OF NEW YORK

March 1980

From: Commanding Officer, Support Services Bureau
To: Deputy Commissioner, Management and Budget
Subj: CHANGES TO THE AUTOMATED VEHICLE FUELING SYSTEM,
PROJECT NO. P.D.-182.

I When the Dept.-wide Automated Vehicle Fueling System (Project No. P.D.-182) was prepared and submitted for bid in 1979, storage for files and reports were to be generated by a host computer (Sect. 2 page 44 of bid specification) this storage capability is no longer available. In order to have this system stand alone, the vehicle, operator, and tank files must be expanded to include data which was to be previously resident on an I.B.M. 370 host computer. To have these expanded data files and the ability to generate necessary reports the following additions to the original specification are needed:

- A. Expand the Vehicle File to include fields for:
- 1) On or Off line
 - 2) Command assigned
 - 3) Classification

- B. Expand the Operator File to include fields for:
 - 1) On or Off line
 - 2) Last name and 1st initial
 - 3) Borough assigned
 - 4) Command assigned
 - 5) Date of last status change
 - 6) Operator type
- C. Expand the tank - pump file to include fields for:
 - 1) Tank site name
 - 2) Order fuel call flag
- D. Expand the fuel transaction format to include:
 - 1) Vehicle classification
 - 2) Miles per gallon per transaction
- E. Provide inquiry capability to each file and the ability to display individual records at the Central Control CRT and the Director's CRT.
- F. Provide the capability to search:
 - 1) Vehicle File by:
 - a) Vehicle Card Number
 - b) Vehicle Number
 - c) Vehicle Last Odometer
 - d) Vehicle Command
 - e) Vehicle Classification

- 2) Operator File by:
 - a) Operator Card Number
 - b) Operator Identification Number
 - c) Operator Command
- 3) Fuel Transactions by:
 - a) Transaction type
 - b) Month
 - c) Month & Day
 - d) Vehicle Number
 - e) Site/Pump Location
 - f) Fuel Type
 - g) Operator Card Number
 - h) Vehicle Classification
- G. Provide that an audible alarm be sounded on each logged transaction that the computer reads and detects as unacceptable or as a transmission error.
- H. Provide the ability to indicate when a diskette is nearing its storage capacity and print a message when this condition occurs.
- I. Provide the ability to list reasons why a vehicle has been placed offline.
- J. Provide a separate Master Card to be used when an operator fuels a privately owned vehicle and a

special coding in the Operator File to distinguish which operators are authorized to fuel such vehicles.

- K. Provide that a fuel receipt entered from a remote terminal will not exceed the in-ground tank capacity. In the event of such an occurrence a transaction error of "Invalid Receipt" will be printed on the transaction record and an audible alarm be sounded. Additionally insure that control keyboard entries to adjust the "On Hand Balance" will not exceed the tank capacity.
- L. Provide the following Report Capability:
 - 1) Vehicle File Reports
 - a) List vehicle numbers and card numbers (by span or all)
 - b) List the complete vehicle file (by span or all)
 - c) List vehicles by command
 - d) List vehicles by classification
 - e) List vehicles and their current mileage
 - f) List vehicles by odometer (10,000 mile increments)
 - g) List vehicles off line

2) Operator File Reports

- a) List Operator S.S. # and Card numbers
(by span or all)
- b) List complete Operator File (by span or all)
- c) List operators by command
- d) List operators by command with private
fuel privilege
- e) List operators offline

3) Tank Pump File Reports

- a) Compare computer inventory to actual
inventory (dipping tank) and compute
percentage of variation

- 4) a) List monthly or on demand by Operator
within a command, private fueling
transactions. Operator's name will be
included in transaction. Subtotal of
gallons used should be given for each
operator and total gallons used for
command. A separate sheet should be
produced for each command.

II For security the following additions are needed:

- A. Provide the capability for each of the 68 remote
terminals to sense or detect the unlocking or
opening of the terminal door and send an intrusion
alarm message to the transaction printer and insure
that an audible alarm is sounded at the time of the

printed transaction at the Central Computer Control Center.

- B. Provide a variable access code to insure that only personnel with knowledge of these codes can enter and function the system for reasons of reporting, displaying or updating files.
- C. Provide each of the 68 terminals with an identifying serial number.

III The addition of the following item will provide management with a complete fueling transaction:

- A. Provide the ability to transact motor oil dispensed at a vehicle and operator level through the use of existing actuator cards and further provide the capability of reporting oil dispensed at an individual or vehicle level through the transaction file. The face of the sixty-eight (68) remote terminals will be modified to provide an "oil" button.

IV The following changes to the Computer Room hardware (Sect. 2, page 49 of Bid Specification) are needed because the system will no longer be used in conjunction with a host computer:

A. Equipment Deletions

1. Two Cathode Ray Tube Terminals for use with IBM S/370
2. Two keyless line printers attached to the above mentioned CRT Terminals
3. One inquiry terminal hard wired to the central computer (Room 209-Operations Office)
4. Bi-synchronous board supplied with the IBM Series I computer which was to be utilized for interfacing with host computer.

B. Equipment Additions

1. A high speed line printer to be operated by the central control computer which will generate various reports. It should be a free standing impact printer with a base. It should have a variable width forms tractor for feeding continuous forms up to 15 inches in width with a printer forms control and paper jamb detection. Character spacing should be 10 per inch with up to one hundred thirty-two (132) print positions per line.
2. One hundred fifty (150) diskettes for use with central control computer to store transactions for history reporting. Diskettes will also be used to back-up system operating programs.

- C. The inquiry terminal located in Room 120 Vehicle Control Office will be moved to Room 210 Central Computer Control Room.

- V The number of locations should be reduced from seventy (Addendum no. 1 - Specification) to sixty-eight. The Street Crime Unit on Randalls Island which was added under Addendum no. 1 to Phase 3 - Manhattan was already in the specification under Phase 2 - Bronx.

The Police Department has relinquished control
of Parking Enforcement Pier 76, N. River Phase 3 -
Manhattan.

Project No.

Code

056-207-0207-011-0

056-2749-011-52-0

056-7946-011-52-1

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURESCONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSALCONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217PROJECT PO-182 Auto Fueling Systems
CONTRACT: Electrical
REG. NO.: XC01157 BOROUGH Various
Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 14 calendar days of submission by the contractor of his cost proposal, or the contractor submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

All payments for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is ordered on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

If the total amount of the change orders issued for the contract exceeds 5% of the contract amount of \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
4	Expand the fuel transaction format to include the following: a - Vehicle Classification b - Miles per gallon per transaction
5	Provide inquiry capability to each file and the ability to display individual records at the Central Control black and white CRT and the Director's black and white CRT.
6	Provide the capability to search the following: a - Vehicle File by 1 - Vehicle card number 2 - Vehicle number 3 - Vehicle last odometer 4 - Vehicle Command 5 - Vehicle Classification

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Code

056-207-B207-211-8

056-2799-011-52-0

056-7946-011-52-0

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURESCONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSALCONTRACTOR: E.J. Ward Inc.
ADDRESS: 8801 Tradeway
San AntonioPROJECT: PO-182 Auto Fueling Systems
CONTRACT: Electrical
REG. NO.: XC01157 BOROUGH Various
Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made on the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

As an alternative, the Contractor may, as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on an agreed price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said price. If no Agreement can be reached on a negotiated price within 14 calendar days of submission of the Contractor's proposal, the Contractor shall submit his cost proposal within the time period prescribed; payment for the work will be made on completion of the work on an audited Time and Material basis.

Payments for change order work must be requested separately from payment for work completed under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

When this work is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final cost of the work is submitted on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

The total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$10,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the above limit. The Department will proceed in accordance with the advice from the Office of the Mayor and the Office of Management and Budget to expedite its spending authority.

Item	DESCRIPTION OF CHANGE
	b - Operator File by: 1 - Operator card number 2 - Operator identification number 3 - Operator Command c - Fuel Transactions by: 1 - Transaction type 2 - Month 3 - Month and Day 4 - Vehicle number 5 - Site/location number 6 - Fuel type 7 - operator Card number 8 - Vehicle classification

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Code

056-207-B207-211-0

056-2999-011-52-0

056-7946-011-52-1

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT: PO-182 Auto Fueling Systems
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various
Boroughs

In accordance with Article 25 of the Agreement, the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may, as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 14 calendar days of submission by the contractor of his cost proposal, or the contractor fails to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

All payments for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed or negotiated price.

This contract is forwarded by (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's break-down of costs are also to be submitted.

If the total amount of the change orders issued for the contract exceeds 4% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such procedure.

Item	DESCRIPTION OF CHANGE
7	Provide the ability to list reasons why a vehicle has been placed offline.
8	Provide the following changes to actuators cards. a) Provide a separate master private vehicle card to be used when an operator fuels a privately owned vehicle and a special coding in the operator file to distinguish which operators are authorized to fuel such vehicles.
9	Provide the following additional report capability: a - Vehicle File report 1 - List vehicle numbers or card numbers, by spanorall. 2 - List vehicles by command 3 - List vehicles by classification

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06-207-B207-211-B5
056-2999-011-52-00
056-7946-011-52-00

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT / CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling systems
CONTRACT: Electrical (Computer)
REG. NO.: DC01157 BOROUGH Various
Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other things necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily with the Resident Engineer in accordance with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

Any payments for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
Cont'd	4 - List vehicle by odometer (10,000 mile increments) 5 - List vehicle off line b - Operator File Reports 1 - List operator Social Security number or card numbers, by span or all. 2 - List operators by command 3 - List operators by command with private fuel privilege 4 - List operators off line c - Tank pump file report 1 - Compare computer inventory to actual inventory, dipping tank, and compute percentage of variation.

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156-234-0234-211-B5

056-207-8207-211-B5

056-2999-011-52-00

056-7946-011-52-00

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PQ-182 Auto Fueling Systems
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various
Boroughs

- In accordance with Article 24 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
- The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fails to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
- All payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
- The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
- If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with a request from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
10	d - Private Vehicle Report 1 - List on demand operators within a command and their private fueling transactions. Operator's name will be included in the listing. Subtotal of gallons will be included in the listing. Subtotal of gallons used should be given for each operator and total gallons used per command. A separate sheet should be produced for each command.
10	a - Equipment Additions 1 - High speed line printer to be operated by the central control computer which will generate various reports. It should be a free standing impact printer with a base. It should have available width forms tractor for feeding continuous forms up to 15 inches in width with a printer forms control and

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

056-234-0234-211-B5

056-207-B207-211-B5

056-2999-011-52-00

056-7946-011-52-00

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling SystemsCONTRACT: Electrical (Computer)REG. NO.: XC01157 BOROUGH Various
Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submission by the contractor of his cost proposal, or the contractor fails to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

1. All payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
2. The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
3. If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with instructions from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
10 Cont'd	paper jamb detection. Character spacing should be 10 per inch with up to one hundred thirty-two (132) print positions per line. 2 - One hundred fifty (150) diskettes for use with central control computer to store transactions for history reporting. Diskettes will also be used to back-up system operating programs. 3 - Provide the ability to indicate when a diskette used to store transactions is nearing its storage capacity and print a message when this condition occurs. Master Cards should be provided in the following amounts: Master vehicle cards - 500 Master private vehicle cards - 500

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056-234-0234-211-B5

056-207-8207-211-B5

056-2999-011-52-00

056-7946-011-52-00

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. _____
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT: PO-182 Auto Fueling Systems
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various
Boroughs

- In accordance with Article 24 of the Agreement the Contractor shall proceed with the work of furnishing all labor, material, equipment and other things necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
- The Contractor may as an alternative, submit within 14 calendar days of receipt of this work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 24 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submission by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
1. No payments for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
2. The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
3. If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
12	Insure that control keyboard entries to adjust the "on Hand Balance" will not exceed the fuel tank capacity.
13	Provide the ability to motor oil dispensed at a vehicle and operator level through the use of existing actuator cards and provide the capability of reporting oil dispensed at an individual or vehicle level through the transaction file. The face of the sixty eight (68) remote terminals will be modified to provide an "oil" button.
14	Back up power supply for modems at central computer in case of power failure.
15	Provide the capability for each of the 68 remote terminals to sense or detect the unlocking or opening of the terminal door and send an intrusion alarm message to the transaction printer and insure that an

ORDER TO PROCEED

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056-234-0234-211-B5
 056-207-B207-211-B5
 056-2999-011-52-00
 056-7946-011-52-00

CITY OF NEW YORK
 DEPARTMENT OF GENERAL SERVICES
 DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
 ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E. J. Ward, Inc.
 ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling Systems
 CONTRACT: Electrical (Computer)
 REG. NO.: VC01157 BOROUGH Various
Boroughs

1. In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
2. The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
3. Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
4. The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's Breakdown of costs are also to be submitted if the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE	
	audible alarm is sounded at the time of the printed transaction at the Central Computer Control Center.	
16	Provide a variable access code to insure that only personnel with knowledge of these codes can enter and operate the system for reasons of reporting displaying or updating files and provide ability to secure the system.	
17	Provide each of the 68 terminals with an identifying serial number.	
18	Equipment Deletions a - Two cathode Ray tube terminals for use with IBM S/370 (host computer) b - Two keyless line printers attached to the above mentioned CRT terminals. c - One inquiry terminal hard wire to the central computer (Rm. 209)	

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Page 10 of 11

-234-0234-211-B5
056-207-B207-211-B5
056-2999-011-52-00
056-7946-011-52-00

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling Systems
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various
Boroughs

1. In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily with the Resident Engineer an accountancy with Article 25 of the Agreement. Failure to comply strictly with these filing requirements shall constitute the basis of any claim for extra compensation or damages on account of the performance of such work.
2. The Contractor may, as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the Contractor of his cost proposal, or the Contractor fails to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
3. Any payment for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
4. The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
5. If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directions from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
18	d - Bi-synchronous board supplied with the IBM Series I Computer which was to be utilized for interfacing with host computer.
19	e - The thirty character per second typewriter terminal will not need a 10 key pad numeric option.
20	Modify the telephone lines as follows: a - Telephone lines shall be standard 3002 voice grade, 2 wire one half duplex multi-drop at the rate of 100 baud.
21	Response time from successful card read to pump actuation should not exceed six (6) seconds if all terminals are used simultaneously.
22	Reasonable mileage validity check shall take from two to six seconds. Separate Delivery and Inventory cards will not be needed. These functions will be accomplished by using the Master Vehicle Card and "Keying" in specific data on pump terminal's dial.

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CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-1
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward, Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical (Computer)
REG. NO.: XC01157 BOROUGH Various
Boroughs

- 1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material Basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
- 2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor or his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material Basis.
- 3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
- 4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
- 5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order for orders which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
23	Eliminate items h to l in the current Status Report (Add #2, page 2, para. 8B)
24	Delete the following locations: a) Street Crime unit on Randall's Island (Add #1) b) Parking Enforcement Pier 76 - Manhattan
25	The sequence of contract to bring phase operational shall be as follows: (Add #3) Phase 1 Staten Island Phase 2 Queens Phase 3 Bronx Phase 4 Manhattan Phase 5 Brooklyn
26	The inquiry terminal located in Room 120, shall be moved to Room 210.

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JUN 3 1980

Date

Commissioner's Authorized Rep.

CONTRACTOR'S PROPOSAL

Submitted herein is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached

Contractor _____ Cost _____

Authorized Signature & Title _____ Date _____

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF \$ _____ IS HEREBY APPROVED

INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

F-52

TR 6567-II

056-234 0234-211-

CODE NOS.

056-207-8207-211-

056-2949-011-52-0

056-7446-011-52-

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

C-2

CONTRACT CHANGE ORDER NO. _____
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

E. J. WARD INC.

CONTRACTOR: _____
ADDRESS: 8801 Tradeway
San Antonio, Texas 78217PROJECT: PO-182 Auto. Fueling System
CONTRACT: Computer System
REG. NO.: XC01157 BOROUGH Various Boroughs

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 26 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.

If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$17,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to exercise such spending authority.

Item	DESCRIPTION OF CHANGE
	Furnish all labor and materials necessary and required to do the following work.
1.	Provide a bi-synchronous board for host computer compatibility.
2.	Provide a KSR 4320 teletype printer with programming. This printer shall be interchangeable with existing printer.
3.	Provide 5000 plastic card holders for the vehicles. Holder shall be approximate 3 1/4 inches by 2 1/4 inches. Submit sample for approval.

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

AUG 25 1960

Date

Commissioner's Authorized Rep.

CONTRACTORS PROPOSAL

Submitted hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (if) (is not) attached.

Contractor

Cost

Authorizing Signature & Title

Date

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF \$ _____ IS HEREBY APPROVED

INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

DATE

CODE NUMBER

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F-53

056-884-0214-211-6
056-207-B207-211-6
056-1999-011-52-0
056-7946-011-52-CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURESCONTRACT CHANGE ORDER NO. C-3
ORDER TO PROCEED AND CONTRACTOR'S PROPOSALCONTRACTOR: F. J. Ward Inc.
ADDRESS: P.O. Box 17888
San Antonio, TexasPROJECT PO-182 Auto Fueling System
CONTRACT: Electrical
REG. NO.: XC01157 BOROUGH Various Boro

- 1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work or furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
- 2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
- 3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
- 4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
- 5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
	Furnish labor and material to perform the following work:
	Install Protective Stanchions at the following precincts:
	105th Precinct Two (2) Stanchions
	112th Precinct Two (2) Stanchions
	113th Precinct Two (2) Stanchions

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

OCT 24 1980

Date

Commissioner's Authorized Rep.

CONTRACTOR'S PROPOSAL

Submitted heron is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached.

Contractor

Cost

Authorized Signature & Title

Date

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF \$ _____ IS HEREBY APPROVED

INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

DATE

CODE NUMBER

056-234-524-211-3.
056-207-327-211-00
056-4544-011-52-00
056-794-011-52-0

CONTRACT CHANGE ORDER NO. e-4
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

PROJECT PQ-182 Auto Fueling System
CONTRACT: Electrical
REG. NO. NC01157 BOROUGH 5 Boros

1. In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work on furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily returns with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
2. The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph 11 above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submission of the contractor's proposal, the contractor shall submit his last proposal within the time period prescribed; payment for the work will be made at completion of the work on an adjusted Time and Material basis.
3. Any payments for change order work must be requested separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on intermediate price.
4. The Contractor is forwarded six (6) copies of this form and a completed "Summary of Changes" of which one proposal or final cost of the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
5. If the total amount of the change orders issued for the contract exceeds \$100,000, a change amount of \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate and Finance a special allowance fund required before payment can be made on this portion of the change order (or orders) which exceeds the allowance fund. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget regarding such pending authority.

Item	DESCRIPTION OF CHANGE
	Provide labor and material to perform the following work:
1.	Install 1" conduit. For new home run from existing gas pump to existing junction box in following precincts 50th Precinct Bronx 105th Precinct Queens

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

Pat Burns Jr.
Commissioner, Authorized Rep.

Date

Submission herein is the proposal for utilizing the changes outlined above Breakdown of Costs is not attached.

Case 101

5

Sustained Attention & Time

2020

PAYMENT OF THE CONTRACTOR ON GREENTREE TO BE TAKEN BY
THE CITY IN THE AMOUNT OF \$ _____ SHEPHERD
APPROVED _____
INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK
ON TIME & MATERIAL BASIS SHEPHERD APPROVED _____

COMMISSIONERS AUTHORIZED REPRESENTATIVE

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CAGE NUMBER

Sup. (M-710) (7-71) 100

1 of 3

056-234-0214-211-1
056-207-0307-211-1
056-2949-011-52-0
056-7746-011-52-

RUZ1

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78212

For Police Dept.
PROJECT PO-182 Automatic Fueling System
CONTRACT: Computer System
REG. NO.: XC01157 BOROUGH Var. Boros.

In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute waiver of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor does not submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.

Payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.

This contract is forwarded to the Office of the Mayor and is instructed to submit to it all copies of it with his proposal, or final costs if the work is completed on a Time and Material basis, to the Commissioner. Four (4) copies of the contract, breakdown of costs are also to be submitted. The total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the above limit. The Department will proceed in accordance with the provisions of the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

em

DESCRIPTION OF CHANGE

Furnish all labor and material necessary and required to do the following work:

1. At each location of remote terminal unit installation, provide a separate feeder to the remote terminal unit interface control unit. This feeder shall be spliced from pump motor feeder ahead of pump shut off switch. Feeder shall be controlled by a 20 AMP keyed toggle switch (with pilot light) in cast box enclosure. Location of switch to be determined in the field.
2. At various locations as directed provide one or two post barriers to protect RTU from vehicle damage. Post barriers will be 4" diameter conduit, concrete filled and capped, set 18" into ground/slab incased in the ground with a 4" concrete envelope. Post barrier to be 42" above grade of ground/slab. Approximately 62 post barrier required.

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2 of 3

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E.J. Ward Inc.
ADDRESS: 9901 Tradeway
San Antonio, Texas 78212

for Police Dept.
PROJECT PO-182 Automatic Fueling System,
CONTRACT: Computer System
REG. NO. XCOL157 BOROUGH Var. Boros.

Under Article 22 of the New York State Contract Law, the City of New York, by and through the Department of General Services, Division of Public Structures, has entered into a contract with the Contractor for the performance of the work of furnishing all labor, material, equipment and other necessary or required for the construction of the work of the City of New York, and the Contractor has agreed to perform the work on a Time and Material basis. The Contractor has agreed to perform the work on a Time and Material basis, and the Contractor has agreed to perform the work on a Time and Material basis.

The Contractor has agreed to perform the work on a Time and Material basis, and the Contractor has agreed to perform the work on a Time and Material basis. The Contractor has agreed to perform the work on a Time and Material basis, and the Contractor has agreed to perform the work on a Time and Material basis.

The Contractor has agreed to perform the work on a Time and Material basis, and the Contractor has agreed to perform the work on a Time and Material basis. The Contractor has agreed to perform the work on a Time and Material basis, and the Contractor has agreed to perform the work on a Time and Material basis.

DESCRIPTION OF CHANGE

3. Provide the following additions to computer program
 - a. Re-program the "Borough Assigned" field in the "Operator Authorization File" to accept a sequential number that provides the ability to track the number of cards identified as the "Card Sequence Number". Ensure that update programs will reflect this change.
 - b. Re-design program to:
 1. List all attempted invalid fuel receipts from the "Octane" terminals.
 2. Indicate invalid fuel receipts at the Control Center by an audible alarm on the K S R printer.
 3. Show SS# of person entering the invalid fuel receipt.
 - c. Change programs and associated logic to ensure that all manual fuel entries and manual fuel receipts (i.e., entered from the control console) and accepted by the IBM Series I, sends the appropriate message to the Color CRT monitor to reflect the new current status of the tank Pump Files.

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056-234-0217-21

056-207-0007-21

056-2744-011-52

056-7746-011-52

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURESCONTRACT CHANGE ORDER NO. C-5
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

For Police Dept

PROJECT PO-182 Automatic Fueling System

CONTRACT: Computer System

REG. NO. XCO1157 BOROUGH Var. Boro

CONTRACTOR: E.J. Ward Inc.
ADDRESS: 8801 Tradeway
San Antonio, Texas 78212

Under Article 24 of the City Charter, the City of New York, in exercising its power of purchasing all labor, material, equipment and other necessary or required for the City, has the honor to invite the Contractor to submit a proposal for the work on a Time and Material basis, in accordance with the first three paragraphs of Article 24 of the City Charter. The Contractor is hereby directed to the requirement of filing data with the Resident Engineer on and before the date of the opening of the bids. Failure to comply strictly with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor may, as an alternative to the above, submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the fourth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the fifth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the sixth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the seventh paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the eighth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the ninth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the tenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the eleventh paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the twelfth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the thirteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the fourteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the fifteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the sixteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the seventeenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the eighteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the nineteenth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

The Contractor is hereby directed to submit a proposal for the work of furnishing all labor, material, equipment and other facilities necessary for the performance of the work on a Time and Material basis, in accordance with the twentieth paragraph of Article 24 of the City Charter. The Contractor is hereby directed to submit such proposal with the City Engineer on and before the date of the opening of the bids. Failure to comply with these filing requirements shall constitute a forfeiture of any claim for extra compensation or damages on account of the performance of such work.

DESCRIPTION OF CHANGE

- d. Modify private vehicle fueling transactions at the remote terminals to read low order digits of the operators social security number and compare those digits against the operator authorization file as an added security check before allowing private fuel transaction to occur.
- e. Provide one (1) duplicate Intercolor Date Terminal as per original specification. This is a necessary backup to monitor the fuel system in the event of failure of the existing monitor. Plug compatible with existing hardware and programs supplied.

ORDER TO PROCEED

Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

DEC 23 1980
Date

Pat Bruno
Commissioner's Authorized Rep

APPROVAL OF COST

PAIDMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY OF NEW YORK IS HEREBY APPROVED

INITIALS OF PRICE OF \$ _____ FOR THIS WORK

ON THIS MATERIAL BASIS IS HEREBY APPROVED

CONTRACTORS PROPOSAL

hereby is my proposal for effecting the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

Contractor

Authorized Signature & Title

Commissioner's Authorized Representative

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURESCONTRACT CHANGE ORDER NO. C-6
ORDER TO PROCEED AND CONTRACTOR'S PROPOSALCONTRACTOR: E. J. Ward Inc.
ADDRESS: P. O. Box 17888
San Antonio, Texas 78217PROJECT PO-182 Auto Fueling Sys.
CONTRACT: Electrical
REG. NO.: XC01157 BOROUGH VAR. Beron

- 1) In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
- 2) The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
- 3) Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
- 4) The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
- 5) If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceeds the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
	<u>CREDIT TO THE CITY OF NEW YORK</u> For labor and material to install New Remote Control boxes at the following precincts: 32nd Precinct, Bronx 106th Precinct, Queens 108th Precinct, Queens Contractor will turn the three(3) remote control boxes over to the Police Dept. and obtain a receipt for same.

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JAN 23 1981

Date


Commissioner's Authorized Rep.

CONTRACTOR'S PROPOSAL

Submitted herein is my proposal for effecting the changes outlined above. Breakdown of Cost (is) (is not) attached.

Contractor

Cost

Authorized Signature & Title

Date

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF \$ _____ IS HEREBY APPROVED.

INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

COMMISSIONER'S AUTHORIZED REPRESENTATIVE

056-234-U234-211-B5 056-207-B207-211-B5
056-2999-011-52-00 056-7946-011-52-00
DATE CODE NUMBER

CITY OF NEW YORK
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PUBLIC STRUCTURES

CONTRACT CHANGE ORDER NO. _____ C-7
ORDER TO PROCEED AND CONTRACTOR'S PROPOSAL

CONTRACTOR: E. J. Ward Inc.
ADDRESS: P.O. Box 17888
San Antonio, Texas 78217

PROJECT PO-182 Auto Fueling System
CONTRACT: Electrical
REG. NO.: XC01157 BOROUGH VAR. B. 20

1. In accordance with Article 25 of the Agreement the Contractor is directed to proceed with the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change described herein. Payment will be made at the completion of the work on a Time and Material basis in accordance with the first three paragraphs of Article 26 of the Agreement. The Contractor's attention is directed to the requirement of filing daily reports with the Resident Engineer in accordance with Article 28 of the Agreement. Failure to comply strictly with these filing requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such work.
2. The Contractor may as an alternative, submit within 14 calendar days of receipt of the work order a proposal for the work of furnishing all labor, material, equipment and other facilities necessary or required to effectuate the change on a negotiated price basis in accordance with the fourth paragraph of Article 26 of the Agreement. The Contractor must, however, proceed with the work in accordance with Paragraph (1) above pending the negotiation of said proposal. Should Agreement not be reached on a negotiated price within 30 calendar days of submittal by the contractor of his cost proposal, or the contractor fail to submit his cost proposal within the time period prescribed, payment for the work will be made at completion of the work on an audited Time and Material basis.
3. Any payments for change order work must be requisitioned separately from payment for work required under the original contract. Partial payments for change order work will only be made in those cases involving an agreed on negotiated price.
4. The Contractor is forwarded six (6) copies of this form and is instructed to submit four (4) copies of it with his proposal, or final costs if the work is performed on a Time and Material basis, to the Commissioner. Four (4) copies of the Contractor's breakdown of costs are also to be submitted.
5. If the total amount of the change orders issued for the contract exceeds 5% of the contract amount or \$15,000, whichever is greater, it will be necessary for the Commissioner to obtain from the Board of Estimate authority to expend additional funds required before payment can be made on that portion of the change order (or orders) which exceed the aforesaid limit. The Department will proceed in accordance with directives from the Office of the Mayor and the Office of Management and Budget to expedite such spending authority.

Item	DESCRIPTION OF CHANGE
	Provide labor and material to perform the following work: Install 3/4 inch conduit for new home run and signal wire from new remote control unit to junction box in existing precinct in the following locations. <u>Central Park</u> <u>Madison Square</u>, Manhattan 24th Precinct, Manhattan 76th Precinct, Brooklyn 90th Precinct, Brooklyn 109th Precinct, Queens 113th Precinct, Queens

ORDER TO PROCEED

The Contractor is hereby directed to proceed with the work described under "Description of Change" in accordance with Paragraphs 1 to 5 above.

JAN 10 1981

Date

Commissioner's Authorized Rep.

CONTRACTOR'S PROPOSAL

Submitter hereon is my proposal for effecting the changes outlined above. Breakdown of Cost (is/ is not) attached

Contractor

Cost

Authorized Signature & Title

Date

APPROVAL OF COST

PAYMENT DUE THE CONTRACTOR OR CREDIT TO BE TAKEN BY THE CITY IN THE AMOUNT OF \$ _____ IS HEREBY

APPROVED

INITIAL UPSET PRICE OF \$ _____ FOR THIS WORK ON TIME & MATERIAL BASIS IS HEREBY APPROVED.

056-211-0274-211-05 056-207-0207-211-05
056-2442-111-52-00 056-7946-011-52-00

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Appendix G

SYSTEM REPORTS

NYCPD OPERATOR INDEX LISTING 08-15 07/22/81 PAGE 1

CODE... UNASGN - NEVER USED/ DATE OR - IS DISPOSED/ * - ASSIGNED OFFLINE

20000	132-30-3290	20001	84-34-0122	20002	123-30-1164	20003	96-34-2665	20004	76-34-5843
20005	109-34-1593	20006	108-36-8087	20007	51-24-0243	20008	117-28-0101	20009	59-34-4126
20010	126-30-0789	20011	79-30-1665	20012	124-36-6218	20013	100-30-5962	20014	76-24-9175
20015	37-34-7445	20016	102-18-0499	20017	117-14-9930	20018	69-28-2983	20019	124-14-3712
20020	126-30-2638	20021	84-30-3295	20022	103-14-9355	20023	115-18-2709	20024	79-36-6776
20025	50-43-4407	20026	131-20-0998	20027	79-20-3677	20028	76-28-9602	20029	75-28-6200
20030	37-24-7569	20031	89-24-5783	20032	111-30-7014	20033	94-34-0155	20034	102-18-7292
20035	55-36-5748	20036	02-04	20037	58-14-1197	20038	69-34-3137	20039	113-32-7330
20040	07-18	20041	94-34-3655	20042	73-36-1127	20043	115-26-5939	20044	88-26-1931
20045	01-22	20046	73-14-1245	20047	125-32-6840	20048	126-30-0958	20049	79-35-8239
20050	55-26-9742	20051	85-36-2701	20052	70-36-4293	20053	123-40-1031	20054	91-34-4584
20055	22-34-0287	20056	149-24-1873	20057	54-36-9044	20058	148-24-1237	20059	108-22-8578
20060	116-22-8868	20061	51-26-5336	20062	72-32-2938	20063	88-32-4768	20064	126-30-3082
20065	129-14-1384	20066	78-16-1168	20067	91-32-1395	20068	90-34-6948	20069	117-24-0581
20070	01-22	20071	59-36-9366	20072	134-14-6651	20073	68-26-2473	20074	188-28-7907
20075	122-32-3912								

ONLINE CARDS 72
OFFLINE CARDS 0
DISPOSED 4
UNASSIGNED 0

TOTAL IN RANGE 76

REPORT COMPLETE

NYCPD VEHICLE INDEX LISTING 08-13 07/22/81 PAGE 1

CODE... UNASGN - NEVER USED/ DATE OR - IS. DISPOSED/ * - ASSIGNED OFFLINE

100 0001	101 0001	102 0002	103 0002	104 0003	105 5620	98	99
100 0001	101 0001	102 0002	103 0002	104 0003	113 0011	114 0012	115 5621
116 0014	117 0015	118 0031	119 6-17	120 0020	121 0030	122 6-18	123 0032
124 6-19	125 0034	126 0036	127 7-22	128 0019	129 0042	130 0043	131 0051
132 0053	133 0054	134 0057	135 0059	136 0061	137 0065	138 0058	139 0072
140 0064	141 0075	142 0076	143 0078	144 8637	145 2-20	146 0037	147 2-20
148 0082	149 0086	150 5-15	151 7-21	152 6-12	153 3-20	154 6-16	155 0096
156 0099	157 7-10	158 0100	159 0101	160 0102	161 0104	162 0105	163 0109
164 0107	165 0108	166 4-14	167 0113	168 0114	169 2-20	170 0116	171 6-12
172 0118	173 0119	174 0112	175 0122				
ONLINE CARDS	59						
OFFLINE CARDS	4						
DISPOSED	15						
UNASSIGNED	2						

TOTAL IN RANGE 76

REPORT COMPLETE.

G-4

NYCPD DPK AUTH FILE - SINGLE REC BY CRD# - 10 25 41 07/20/81 PAGE 1

CARD# STATUS SOL SEC # COMMAND PVF LAST CHNG NAME # CARDS

1 OFF 88-12-0045 370 NO 05/06 MCGRATH 1W 0

REPORT COMPLETE

NYCPD OPR AUTH FILE - RANGE BY CRD# - 10 26 40 07/23/81 PAGE 1

CARD#	STATUS	SOC SEC #	COMMAND	PVF	LAST CHNG	NAME	# CARDS
1	OFF	38-12-0045	570	NO	05/06	MCGRATH	0
2	ON	91-34-1078	570	NO	03/25	KIERNAN	0
3	ON	69-34-2252	570	NO	03/18	HAMEL	0
4	ON	125-30-0689	570	NO	04/30	HAGAN	0
5	ON	71-48-0312	570	NO	03/19	HARVELL	0
6	ON	62-40-8327	570	NO	03/18	DANETRA	0
7	ON	70-40-4328	570	NO	03/19	ROSS	0
8	ON	92-32-2713	570	NO	03/25	ZERVOS	0
9	ON	61-28-2103	570	NO	04/30	DEMASI	0
11	ON	110-28-8040	570	NO	03/18	HUETHER	0
14	ON	999-99-9999	999	NO	07/17	TEST CARD	0
15	ON	999-99-9999	999	YES	03/27	TEST CARD	0
16	ON	999-99-9999	999	YES	03/27	TEST CARD	0
18	ON	999-99-9999	999	NO	03/27	TEST CARD	0
19	ON	999-99-9999	999	NO	03/27	TEST CARD	0

REPLNT COMPLETE

NYCPD UPR AUTH FILE - LIST ALL RECORDS - 8 59 47 07/22/81 PAGE 1

CARD#	STATUS	SDC SEC #	COMMAND	PVF	LAST CHNG	NAME	# CARDS
1	OFF	38-12-0045	570	NO	05/06	MCGRATH	W 0
2	UN	91-34-1078	570	NO	03/25	KIERNAN	T 0
3	UN	69-34-2252	570	NO	03/18	HAMEL	K 0
4	UN	125-30-0089	570	NO	04/30	HAGAN	D 0
5	UN	71-48-0312	570	NO	03/19	HARVELL	D 0
6	UN	62-40-8327	570	NO	03/18	DANETRA	A 0
7	UN	70-40-4328	570	NO	03/19	ROSS	T 0
8	UN	92-32-2913	570	NO	03/25	ZERVUS	A 0
9	UN	61-23-2103	570	NO	04/30	DEMASI	J 0
11	UN	110-28-8040	570	NO	03/18	HUETHER	R 0
14	UN	999-99-9999	999	NO	07/17	TEST CARD	A 0
15	UN	999-99-9999	999	YES	03/27	TEST CARD	A 0
16	UN	999-99-9999	999	YES	03/27	TEST CARD	A 0
17	UN	999-99-9999	999	NO	03/27	TEST CARD	A 0
1032	UN	134-28-5220	102	YES	06/12	ALFANO	R 0
2484	UN	64-38-2865	161	NO	07/16	COOMBS	R 1
9664	UN	62-36-6601	1	YES	07/07	ZULFO	M 0
10100	UN	72-32-7273	1	NO	/	ACHA	B 0
10101	UN	126-28-7191	1	YES	/	AGUGLIARO	J 0
10102	UN	121-34-9264	1	NO	/	AJELLO	J 0
10103	UN	82-40-3604	1	NO	/	AMERUSE	L 0
10104	UN	80-34-5930	1	NO	/	ANDRUZZI	W 0
10105	UN	57-34-1985	1	NO	/	ANELLO	J 0
10106	UN	109-40-5772	1	NO	/	ARNONE	C 0
10107	OFF	112-32-4202	17	NO	06/22	BARBOUR	W 0
10108	UN	70-42-6019	1	NO	/	BARTH	E 0
10109	UN	76-22-5314	1	NO	/	BELIVEAU	R 0
10110	UN	580-03-8443	1	NO	/	BENJAMIN	R 0
10111	UN	115-18-6017	1	NO	/	BENNETT	R 0
10112	UN	64-22-7969	1	NO	/	BORKOWSKY	Z 0
10113	UN	101-22-0119	1	YES	/	BOTROS	M 0
10114	UN	77-40-8169	1	NO	/	BOYSA	R 0
10115	UN	125-40-8115	1	NO	/	BRADLEY	D 0
10116	UN	106-34-6040	1	NO	/	BRADY	J 0
10117	UN	85-22-5995	1	NO	/	BRECH	R 0
10118	UN	69-40-0265	1	NO	/	BREEN	D 0
10119	UN	73-32-8767	1	NO	/	BREUER	R 0
10120	UN	92-22-6805	1	NO	/	BRITTON	J 0
10121	UN	91-42-1045	6	NO	04/27	BROGAN	F 0
10122	UN	59-36-9980	1	NO	/	BROWN	G 0
10123	UN	60-34-3624	1	YES	/	BROWN	K 0
10124	UN	80-30-2251	1	NO	/	BROWN	R 0
10125	UN	66-42-4077	1	NO	/	BROWN	V 0
10126	UN	62-30-1311	551	NO	03/23	MURPHY	P 0
10127	UN	120-34-6232	1	NO	/	BUTLER	J 0
10128	UN	133-18-8155	1	NO	/	BUDJON	R 0
10129	UN	118-42-3743	1	NO	/	BYERS	P 0
10130	UN	113-32-1382	1	NO	/	CALISE	F 0
10131	UN	68-42-9220	1	NO	/	CAMARDA	S 0
10132	UN	72-34-7154	1	NO	/	CAPUANO	J 0
10134	UN	94-32-7585	1	NO	/	CARRIERI	J 0
10135	UN	124-22-4287	1	NO	/	CERK	W 0
10136	UN	3-32-2911	1	NO	/	CHIMERYS	J 0

NYCPD OPR AUTH FILE I REC BY OPR IDENT - 10 29 '86 07/20/81 PAGE 1

CARD#	STATUS	SOC SEC #	COMMAND	PVF	LAST CHNG	NAME	# CARDS
2	ON	91-34-1078	370	NO	03/29	KIERNAN	0

REPORT COMPLETE

NYCPD OPR AUTH FILE PVP BY COMMAND - 10 30 31 07/20/81 PAGE 1

CARDS	STATUS	SUC SEC #	COMMAND	PVF	LAST CHNG	NAME	# CARDS
10406	UN	92-42-7342	389	YES	03/11	SHANLEY	0
10916	UN	109-32-3073	389	YES	03/11	STANLEY	0
11381	UN	119-34-8349	389	YES	05/20	MCDONALD	0
11757	UN	74-32-3462	389	YES	04/09	DUNNE	0
11890	UN	132-38-0185	389	YES	03/11	NAVARRO	0
11896	UN	64-36-3696	389	YES	03/24	OBERLE	0
12145	UN	80-34-9086	389	YES	03/11	VIGNARI	0
12242	UN	80-36-2551	389	YES	05/04	MONAHAN	0
12270	UN	82-34-4420	389	YES	01/21	SCHOLL	0
12496	UN	93-38-1428	389	YES	01/21	BURHANS	0
12963	UN	93-36-6887	389	YES	03/11	RODRIGUEZ	0
13401	UN	100-44-2611	389	YES	04/16	GANNON	0
13461	UN	52-34-6431	389	YES	03/24	MCKENNA	0
13554	UN	50-38-2678	389	YES	01/20	BRUNO	0
13582	UN	116-28-4767	389	YES	03/11	DELLAROCC	0
13602	UN	101-34-6580	389	YES	03/11	GONZALEZ	0
13609	UN	101-30-4008	389	YES	03/09	HARRIGAN	0
14182	UN	82-34-2125	389	YES	03/30	DELLAROCC	0
15646	UN	73-32-1105	389	YES	03/24	FITZGERAL	0
15942	UN	106-38-4703	389	YES	04/09	HERMANN	0
16354	UN	78-36-0656	389	YES	03/24	JALQUES	0
16407	UN	50-38-9096	389	YES	04/09	SCRIVANI	0
16510	UN	79-30-3903	389	YES	03/24	MCDONALD	0
16582	UN	113-40-2417	389	YES	03/27	RODER	0
16590	UN	110-32-5788	389	YES	04/22	BARRETT	0
16681	UN	122-32-5791	389	YES	04/22	MOLLOY	0
16700	UN	61-32-5408	389	YES	04/27	OTTEN	0
17204	UN	62-38-8898	389	YES	03/24	GRIFFITH	0
17323	UN	91-32-4718	389	YES	03/24	BENOIT	0
17355	UN	50-36-8033	389	YES	03/24	DESANCTIS	0
17464	UN	249-58-8207	389	YES	04/16	RUOPOLI	0
18491	UN	95-36-5286	389	YES	03/25	GANUN	0
19472	UN	74-44-1587	389	YES	03/24	MANIGAULT	0
19759	UN	63-30-9031	389	YES	03/24	DAMM	0
19797	UN	59-30-0133	389	YES	04/16	KEARNEY	0
19931	UN	54-32-1219	389	YES	03/11	BANKS	0
20229	UN	245-78-1257	389	YES	03/25	ERVIN	0
20398	UN	79-30-0881	389	YES	03/24	MCADAM	0
22347	UN	435-54-8463	389	YES	03/11	ROSE	0
23473	UN	96-30-3296	389	YES	04/27	HOLLAND	0
23509	UN	83-44-3132	389	YES	05/14	HEALEY	0
23583	UN	75-32-4013	389	YES	03/11	MAZZOLA	0
25604	UN	80-36-4168	389	YES	/	O'BRIEN	0
25605	UN	134-26-6084	389	YES	/	DUMD	0
25606	UN	109-30-7018	389	YES	/	HORAN	0
25607	UN	118-32-0040	389	YES	/	JAHRNES	0
25608	UN	94-20-0831	389	YES	/	LEWIS	0
25609	UN	96-16-7751	389	YES	/	PETERSON	0
25610	UN	89-30-2625	389	YES	/	SEWELL	0
25611	UN	111-30-3610	389	YES	/	SCHRUEDER	0
25612	UN	132-34-3728	389	YES	/	WISE	0
25613	UN	109-32-8134	389	YES	/	DANGELO	0
25617	UN	122-32-2021	389	YES	/	DELGUIDIC	0
25618	UN	56-34-6328	389	YES	/	DIGLIO	0

NYCPD OPR AUTH FILE = ALL IN COMMAND - 10 36 1 07/20/81 PAGE 1

CARD#	STATUS	SOC SEC #	COMMAND	PVF	LAST CHNG	NAME	# CARDS
10152	ON	123-30-8425	123	NO	01/28	EGAN	0
10708	ON	130-34-6472	123	NO	01/27	MOREBACK	0
10724	ON	116-34-4684	123	NO	01/27	PICONE	0
12164	ON	125-40-6477	123	NO	01/28	DIAZ	0
13890	OFF	83-28-7517	123	NO	06/30	CUPELLI	0
16802	OFF	96-32-6246	123	NO	06/30	DELUCA	0
17191	ON	90-36-6370	123	NO	07/07	FURTADO	0
19548	ON	79-30-6252	123	NO	04/08	AVERSA	0
19549	ON	52-28-7362	123	NO	04/08	JENNETT	0
19550	ON	85-26-5300	123	NO	04/08	CASEY	0
19551	ON	79-30-0656	123	NO	04/08	COCHRAN	0
19552	ON	125-30-7481	123	NO	04/08	GIBBONS	0
19553	ON	72-22-1074	123	NO	04/08	LARESCA	0
19554	ON	109-40-6456	123	NO	04/08	LENNING	0
19555	ON	104-32-0978	123	NO	04/08	LOMBARDO	0
19556	ON	88-24-0644	123	NO	04/08	LUBRANO	0
19557	ON	125-32-3173	123	NO	04/08	MARESCA	0
19558	ON	86-40-9946	123	NO	04/08	MARTINESI	0
19559	ON	61-28-7135	123	NO	04/08	MATTEI	0
19560	ON	64-34-4234	123	NO	04/08	MCLAUGHLIN	0
19561	ON	84-22-8404	123	NO	04/08	MURPHY	0
19562	ON	84-36-9505	123	NO	04/08	PATTISON	0
19563	ON	104-26-0845	123	NO	04/08	REGAN	0
19567	ON	86-24-0221	123	NO	04/08	SCHURDTT	0
19585	ON	78-32-8748	123	NO	04/08	SUELIAN	0
19592	ON	111-18-4207	123	NO	04/08	STANULIS	0
20902	ON	111-28-5354	123	NO	03/05	FABISENSKI	0
20903	ON	243-84-6017	123	NO	03/05	GUTHRIE	0
20904	ON	125-40-8040	123	NO	03/05	KLINE	0
21409	ON	67-32-5938	123	NO	01/13	LOBELLO	0
21415	ON	122-32-0422	123	NO	01/07	STUMPF	0
21504	ON	70-42-6042	123	NO	01/12	KRIEGER	0
21513	ON	130-26-7223	123	NO	03/13	HUNT	0
21518	ON	137-26-7644	123	NO	03/13	BOPP	0
21735	ON	117-30-6729	123	NO	/	ARANDA	0
21736	ON	178-30-8198	123	NO	11/26	BARTOLETTI	0
21738	ON	87-38-9263	123	NO	/	BELL	0
21739	ON	72-34-6670	123	NO	/	BERT	0
21740	ON	126-28-8483	123	NO	/	BESIGNANO	0
21741	ON	118-42-3671	123	NO	11/26	BORG	0
21742	ON	71-22-0227	123	NO	/	BORRUSO	0
21743	ON	79-20-2021	123	NO	/	BRADY	0
21744	ON	96-12-4500	123	NO	/	BUOMO	0
21745	ON	109-24-4448	123	NO	/	BURNS	0
21746	OFF	124-22-4888	123	NO	05/19	BUTLER	0
21747	ON	84-42-0199	123	NO	/	CAPECT	0
21748	ON	99-32-5786	123	NO	/	CARLINO	0
21750	ON	87-24-3671	123	NO	/	CHIARELLO	0
21752	ON	109-32-1110	123	NO	/	DECELLO	0
21753	ON	77-38-4125	123	NO	/	DIPIPPO	0
21754	ON	92-42-5707	123	NO	/	DITRANI	0
21755	ON	73-36-0354	123	NO	/	DONUGHUE	0
21756	ON	97-38-2026	123	NO	/	DURKIN	0
21757	ON	112-34-6153	123	NO	/	FRANZESE	0

SYCPO DCR AUTH FILE - LIST ALL OFF-LINE - 9 13 8 08/12/01 PAGE 1									
CARD#	STATUS	SUC SEC #	COMMAND	PVF	LAST CHG	NAME	#	CARDS	
1	OFF	38-14-0045	570	NO	05/05	MCCRATH	WM	0	
10147	OFF	94-40-6122	6	NO	08/05	NAPOLITAN	J	0	
10147	OFF	130-34-1765	1	NO	07/22	DIMAURU	JA	0	
10147	OFF	50-38-2332	20	NO	07/23	MALDONADO	AM	1	
10147	OFF	113-30-0950	389	NO	06/21	DOYLE	OG	0	
10147	OFF	102-40-6550	6	NO	06/05	CUTLER	JA	0	
10147	OFF	106-34-7220	9	NO	07/22	MURPHY	JC	0	
10147	OFF	132-44-8484	420	NO	08/07	SULLIVAN	LE	0	
10147	OFF	79-40-5526	10	NO	06/19	AQUILA	WM	0	
10147	OFF	120-32-5580	578	NO	07/07	CHAN	ET	0	
10147	OFF	100-40-5449	10	NO	06/19	KINAHAN	JA	0	
11002	OFF	92-36-8528	10	NO	06/19	MANZO	JA	0	
11014	OFF	57-32-7308	10	NO	06/19	MCGUINNES	TF	0	
11033	OFF	94-40-3563	14	NO	06/09	CHAPARD	TI	0	
11007	OFF	105-42-3180	14	NO	06/09	HEALY	WF	0	
11032	OFF	100-28-1448	161	NO	07/30	MURAN	FE	0	
11074	OFF	65-36-1681	14	NO	01/14	MARK	JA	0	
11081	OFF	73-36-1163	19	NO	07/30	MUGER	OG	0	
11407	OFF	112-52-8224	19	NO	07/30	TATE	JK	0	
11413	OFF	64-32-2785	19	NO	07/30	TAYLOR	LE	0	
11415	OFF	110-34-4485	50	NO	06/23	REESE	JA	0	
11417	OFF	112-44-1328	19	NO	07/30	MULDOON	JA	0	
11513	OFF	86-40-8958	9	NO	07/25	DELROSARI	OG	0	
11572	OFF	80-36-0262	18	NO	07/28	BETZ	EP	0	
11745	OFF	68-34-9774	520	NO	07/12	SEALLS	RR	0	
11797	OFF	116-36-2284	18	NO	07/28	STELZER	JK	0	
12000	OFF	129-34-6373	507	NO	06/18	CUSTELLO	RR	0	
12003	OFF	62-52-9270	24	NO	04/28	POWERS	SS	0	
12751	OFF	75-46-4532	25	NO	07/11	CONNOR	SS	0	
12753	OFF	117-24-9058	25	NO	07/11	GILMOUR	EP	0	
12753	OFF	110-30-5122	26	NO	06/19	CAVANAUGH	UG	0	
12757	OFF	171-32-8080	26	NO	06/17	PLUMB	OG	0	
12777	OFF	83-34-8292	551	NO	05/21	SCOTT	JC	0	
13064	OFF	119-34-1494	24	NO	07/15	ROBERTSON	EP	1	
13070	OFF	257-62-9335	28	NO	06/19	FRAZIER	EE	0	
13110	OFF	266-54-7194	28	NO	01/23	LAUSON	JC	0	
13217	OFF	107-38-4324	24	NO	07/15	SCHAEFFER	JA	1	
13272	OFF	89-28-6035	113	NO	06/14	LEONARD	SS	0	
13473	OFF	111-32-8834	538	NO	06/19	POWELL	WM	0	
13637	OFF	132-34-9984	17	NO	07/23	MARAZITA	EP	0	
13660	OFF	67-30-7381	155	YES	08/11	DREYER	EP	1	
13782	OFF	111-32-1112	0	NO	7			0	
13810	OFF	112-38-4010	40	NO	06/15	MCCATHON	RR	0	
13887	OFF	26-32-6344	102	NO	07/01	GRUSS	JA	0	
14007	OFF	51-36-6745	42	NO	08/05	GURBLA	AM	0	
14081	OFF	71-34-6242	42	NO	06/19	MCGUINNES	GO	0	
14278	OFF	87-32-7892	490	NO	04/23	SANTIAGO	JA	0	
14283	OFF	67-38-4391	44	NO	07/31	VENEZIA	JA	0	
14700	OFF	67-34-7075	290	NO	05/31	BRADY	JA	0	
14714	OFF	12-36-6384	66	NO	06/01	KELLY	EP	0	
15295	OFF	120-16-6568	52	NO	07/22	CALLAHAN	JA	0	
15367	OFF	133-26-1308	19	NO	07/30	BUTTACOLI	JA	0	
15454	OFF	12-22-8750	490	NO	04/03	GYARE	EP	0	
15211	OFF	52-42-8060	50	NO	05	CHRISTIAN	JA	0	

NYCPD EUP AUTH FILE SINGLE EQUIP CARD # 10-48 07/20/81 PAGE 1

EQUIP	CARD	EQUIP	FUEL	ODOM	MILES	ODOM		GALLON	1-LOST	3-ACC	
#	#	STAT	TYPE	CODE	LIMIT	RONG	CLASS	COMND	LIMIT	2-SHOP	4-CNDM
8705	269	UN	2--0	7	250	7428	ARD	970	18		

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NYCPD TOP AUTH FILE - RANGE OF EQUIP CPD# - 10-50 07/20781 PAGE 1

EQUIP #	CARD #	EQUIP STAT	FUEL TYPE	DDOM CODE	MILES LIMIT	DDOM RDNG	CLASS	CUMNO	GALLON LIMIT	1-LOST 2-SHUP	3-ACC 4-CVDM
1	100	UN	2--0	1	250	187030	LRY	500	23		
1	101	UN	2--0	1	250	338710	VBY	500	23		
2	102	UN	2--0	1	250	51655	TEY	502	23		
2	103	UN	2--0	1	250	4760	LIY	502	23		
3	104	UN	2--0	7	250	87104	QEV	551	23		
5620	105	UN	2--0	1	0	80505	UEY	570	23		
1	103	UN	2--0	1	250	181030	LRY	500	23		
1	101	UN	2--0	1	250	338710	VBY	500	23		
2	102	UN	2--0	1	250	51163	TEY	502	23		
2	103	UN	2--0	1	250	4760	LIY	502	23		
3	104	UN	2--0	7	250	65536	QEV	551	23		
11	113	UN	2--0	7	250	1	IRT	165	23		
12	114	UN	2--0	7	250	30700	ARD	538	18		
5521	115	UN	2--0	1	0	23384	UEY	570	23		
14	118	UN	2--0	7	250	18031	ARD	182	18		
15	117	UN	2--0	7	250	52791	HRT	496	23		
31	118	UN	2--0	7	250	54720	GSD	34	18		
617	119	OFF	0--0	0	0	0		0	0	4	
20	120	UN	2--0	7	250	55298	QEV	201	23		
30	121	UN	2--0	7	250	1	U	165	18		
618	122	OFF	0--0	0	0	0		0	0	4	
32	123	UN	2--0	7	250	1	ARD	380	18		
619	124	OFF	0--0	0	0	0		0	0	5	
34	125	UN	2--0	7	250	8435	ARD	375	18		
36	126	UN	2--0	7	250	65	ARD	384	18		
30	127	UN	2--0	7	250	654	TRY	81	23		
19	128	UN	2--0	7	250	10324	ARD	447	18		
42	129	UN	2--0	7	250	141	QRY	5	23		
43	130	UN	2--0	7	250	40699	GSD	112	18		
51	131	UN	2--0	7	250	10018	ARD	499	18		
53	132	UN	2--0	7	250	13522	ARD	501	18		
54	133	UN	2--0	7	250	107	ARD	502	18		
57	134	UN	2--0	7	250	141	ARD	201	18		
59	135	UN	2--0	7	250	15593	ARD	533	18		
61	136	UN	2--0	7	250	10602	ARD	310	18		
65	137	UN	2--0	7	250	48843	GSD	24	18		
58	138	UN	2--0	7	250	18795	ARD	551	18		
72	139	UN	2--0	7	250	23485	ARD	125	18		
84	140	UN	2--0	7	250	2	BEY	500	23		
75	141	UN	2--0	7	250	1	TRY	586	23		
76	142	UN	2--0	7	250	1	PRY	77	23		
78	143	UN	2--0	7	250	141	QRY	6	23		
220	144	OFF	0--0	0	0	0		0	0	5	
220	145	OFF	0--0	0	0	0		0	0	5	
37	146	UN	2--0	7	250	40746	ARD	450	18		
220	147	OFF	0--0	0	0	0		0	0	5	
82	148	UN	2--0	7	250	51314	IRT	193	23		
86	149	UN	2--0	7	250	18550	ARD	497	18		
515	150	OFF	0--0	0	0	0		0	0	4	

REPORT COMPLETE

AD-A119 954

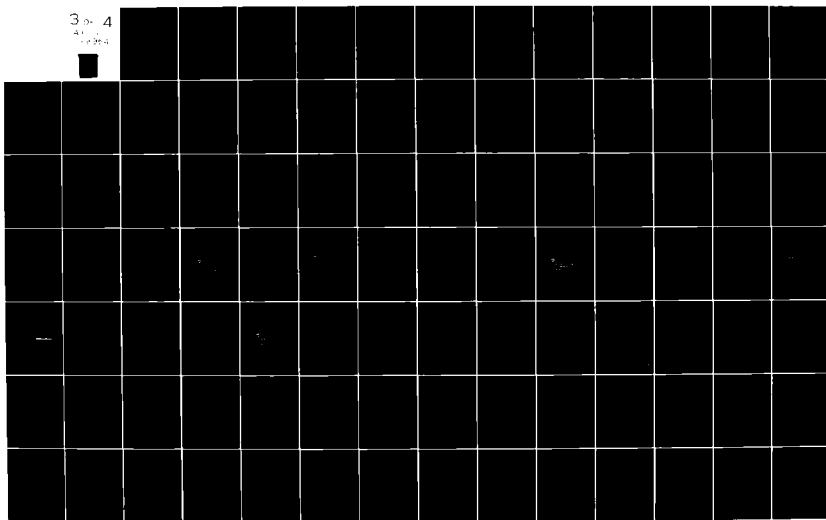
NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC(10)
NOV 81 W J MCGRATH; M M MCNAMARA
NUSC-TR-6567-11

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10/2/81



NYCPD - EGP-AUTH-FILE - SINGLE-EQUIPMENT # - 10-51-07/20/81 - PAGE - 1

EQUIP	CARD	EQUIP	FUEL	ODOM	MILES	ODOM		GALLON	1-LOST	3-ACC	
#	#	STAT	TYPE	CODE	LIMIT	RONG	CLASS	COMND	LIMIT	2-SHOP	4-CNDM
8706	269	UN	2--0	7	250	7428	ARD	570	18		

REPORT COMPLETE

NYCPD EQP AUTH FILE - LIST ALL EQUIPMENT - 09-02 07/22/81 PAGE 1

EQUIP	CARD	EQUIP	FUEL	ODOM	MILES	ODOM	CLASS	COMM	GALLON	1-LOST	3-ACC
		STAT	TYPE	CODE	LIMIT	RNG			LIMIT	2-SHOP	4-CNDM
9998	1	UN	1--0	1	0	9999	ZZZ	999	1		
9998	2	UN	2--0	1	0	37045	ZZZ	999	1		
9998	3	UN	2--0	1	0	9999	ZZZ	999	1		
9998	4	UN	2--0	1	0	74925	ZZZ	999	1		
9998	5	UN	2--0	1	0	8150	ZZZ	999	1		
401	6	UFF	0--0	0	0	0		0	0	5	
9999	9	UN	9--0	7	250	1	ZZZ	999	5		
1	100	UN	2--0	1	250	188150	LRY	500	23		
1	101	UN	2--0	1	250	338710	VBY	500	23		
2	102	UN	2--0	1	250	51776	TEV	502	23		
2	103	UN	2--0	1	250	4760	LIY	502	23		
3	104	UN	2--0	7	250	87104	QEY	551	23		
5620	105	UN	2--0	1	0	80505	UEY	570	23		
1	100	UN	2--0	1	250	181030	LRY	500	23		
1	101	UN	2--0	1	250	338710	VBY	500	23		
2	102	UN	2--0	1	250	51163	TEV	502	23		
2	103	UN	2--0	1	250	4760	LIY	502	23		
3	104	UN	2--0	7	250	65536	QEY	551	23		
11	113	UN	2--0	7	250	1	IRT	165	23		
12	114	UN	2--0	7	250	30700	ARD	538	18		
5621	115	UN	2--0	1	0	23384	UEY	570	23		
14	116	UN	2--0	7	250	16031	ARD	162	18		
15	117	UN	2--0	7	250	52791	HRT	496	23		
31	118	UN	2--0	7	250	54720	GSD	34	18		
617	119	UFF	0--0	0	0	0		0	0	4	
20	120	UN	2--0	7	250	55298	OEY	201	23		
30	121	UN	2--0	7	250	1	ARD	165	18		
618	122	UFF	0--0	0	0	0		0	0	4	
32	123	UN	2--0	7	250	1	ARD	380	18		
619	124	UFF	0--0	0	0	0		0	0	5	
34	125	UN	2--0	7	250	8435	ARD	375	18		
36	126	UN	2--0	7	250	65	ARD	384	18		
722	127	UFF	0--0	0	0	0		0	0	5	
19	128	UN	2--0	7	250	15509	ARD	447	18		
42	129	UN	2--0	7	250	141	QRY	5	23		
43	130	UN	2--0	7	250	40699	GSD	112	18		
51	131	UN	2--0	7	250	10018	ARD	499	18		
53	132	UN	2--0	7	250	13522	ARD	501	18		
54	133	UN	2--0	7	250	107	ARD	502	18		
57	134	UN	2--0	7	250	141	ARD	201	18		
59	135	UN	2--0	7	250	15593	ARD	533	18		
61	136	UN	2--0	7	250	10602	ARD	310	18		
65	137	UN	2--0	7	250	48843	GSD	24	18		
58	138	UN	2--0	7	250	18795	ARD	551	18		
72	139	UN	2--0	7	250	23627	ARD	125	18		
89	140	UN	2--0	7	250	2	BEY	500	23		
75	141	UN	2--0	7	250	1	TRY	586	23		
76	142	UN	2--0	7	250	1	PRY	77	23		
78	143	UN	2--0	7	250	141	QRY	6	23		
8037	144	UN	2--0	7	250	27137	HRD	366	18		
220	145	UFF	0--0	0	0	0		0	0	5	
37	146	UN	2--0	7	250	40746	ARD	450	18		
220	147	UFF	0--0	0	0	0		0	0	5	

NYCPD EGP AUTH FILE - EQUIPMENT IN COMMAND - 10-52 07/20/81 PAGE 1

EQUIP #	CARD #	EQUIP STAT	FUEL TYPE	ODOM CODE	MILES LIMIT	ODOM RDNG	CLASS	COMNO	GALLON LIMIT	1-LOST 2-SHUP	3-ACC 4-CNDM
1211	853	ON	2--0	7	250	61882	ARA	123	18		
1218	857	ON	2--0	7	250	24323	ARA	123	18		
1595	1116	ON	2--0	7	250	81831	JRA	123	18		
2200	1445	UN	2--0	7	250	79212	JRA	123	18		
2231	1465	JN	2--0	7	250	89580	JRA	123	18		
2252	1479	UN	2--0	7	250	66907	JRA	123	18		
2528	1668	ON	2--0	7	250	92814	JRA	123	18		
2667	1772	JN	2--0	7	250	1	JRA	123	18		
2789	1882	ON	2--0	7	250	69377	JRA	123	18		
1968	2351	UN	2--0	7	250	48512	ARA	123	18		
8622	3880	UN	2--0	7	250	83588	HRD	123	18		
9125	4017	UN	2--0	7	250	973	WTK	123	2		
9124	4030	ON	2--0	7	250	912	WTK	123	2		

REPORT COMPLETE

NYCPD LUP AUTH PICE - EOP IN CLASSIFICATION - 10-97-07/20/81 PAGE 1

EQUIP	CARD	EQUIP	FUEL	ODOM	MILES	ODOM	CLASS	COMMO	GALLON	1-LOST 3-7 C
8	8	STAT	TYPE	CODE	LIMIT	RUNG		LIMIT	2-SHOP 4-CNDM	
8114	3503	UN	2--0	7	250	59114	ORD	366	18	
8116	3505	UN	2--0	7	250	1	ORD	164	18	
8119	3508	UN	2--0	7	250	141	ORD	944	18	
8123	3507	UN	2--0	7	250	76781	ORD	384	18	
8124	3508	UN	2--0	7	250	141	ORD	128	18	

REPORT COMPLETE

NYEPD EUP-AUTH-FILE LIST-ODOM-RANGE CLASS 11-02 07/20/81 PAGE 1
 EQUIP CARD EQUIP FUEL ODOM MILES ODOM
 # # STAT TYPE CODE LIMIT RONG CLASS COMND LIMIT 1-LOST 3-ACC
 8114 3503 ON 2--0 7 250 59114 DRD 388 18 2-SHOP 4-CNDM
 8120 3507 ON 2--0 7 250 76781 DRD 388 18

REPORT COMPLETE

NYCPD TRANSACTION FILES - ALL TRANSACTIONS - 11-07 07/20/81 PAGE 1

SEQ # TP DATE TIME

2	00	07/15	00-00	C122	V1285	M012871	S122	T1	F2	P1	G013.1	MPG	8.4	ARA	OC122	SS	93-34-7813
3	00	07/15	00-00	C 45	V1768	M031864	S 45	T1	F2	P1	G014.8	MPG	8.7	ARA	OC 45	SS124	40-0336
4	00	07/15	00-00	C 47	V1455	M003095	S 47	T1	F2	P1	G014.0	MPG	8.0	BET	OC 47	SS	70-32-7773
5	00	07/15	00-11	C 46	V2481	M046276	S 46	T1	F2	P1	G012.8	MPG	5.7	JRA	OC 46	SS127	32-7237
6	00	07/15	00-13	C123	V1218	M023927	S123	T1	F2	P1	G011.0	MPG	11.0	ARA	OC123	SS111	28-5354
7	00	07/15	00-13	C 22	V2313	M043554	S 5	T1	F2	P1	G012.2	MPG	8.3	JRA	OC 22	SS108	24-5294
8	00	07/15	00-13	C109	V1593	M040892	S109	T1	F2	P1	G015.4	MPG	7.2	ARD	OC109	SS103	32-6226
9	00	07/15	00-15	C324	V8532	M061774	S114	T1	F2	P1	G016.1	MPG	13.1	TID	OC114	SS104	28-6477
10	00	07/15	00-17	C450	V5542	M020711	S 26	T1	F2	P1	G009.7	MPG	1.6	UHV	OC450	SS107	34-4238
11	00	07/15	00-17	C 34	V1998	M001620	S 34	T1	F2	P1	G013.7	MPG	8.1	BET	OC 34	SS109	32-1062
12	00	07/15	00-17	C105	V2079	M066369	S105	T1	F2	P1	G012.0	MPG	9.8	JRA	OC105	SS118	32-3894
13	00	07/15	00-19	C 46	V2179	M029187	S 46	T1	F2	P1	G008.9	MPG	6.2	JRA	OC 46	SS	73-32-9667
14	00	07/15	00-20	C107	V1876	M038402	S111	T1	F2	P2	G014.3	MPG	9.7	ARA	OC107	SS112	34-4839
15	02	07/15	00-20	C 34	V0031	M 34720	S 34	T1	F2	P1	G017.3	MPG	7.3	GSO	OC 34	SS131	34-5597
16	00	07/15	00-20	C110	V1657	M030485	S114	T1	F2	P1	G015.0	MPG	6.8	ARA	OC110	SS	58-44-6689
17	00	07/15	00-20	C105	V1004	M010190	S105	T1	F2	P1	G011.4	MPG	12.2	BET	OC105	SS	64-36-5969
18	00	07/15	00-23	C450	V5517	M001188	S 26	T1	F2	P1	G018.1	MPG	4.4	LHP	OC450	SS	52-38-1813
19	00	07/15	00-23	C 23	V1673	M019812	S 23	T1	F2	P1	G010.8	MPG	9.9	ARA	OC 23	SS	83-40-9350
20	00	07/15	00-25	C110	V2342	M024997	S114	T1	F2	P1	G008.0	MPG	7.5	ARA	OC110	SS120	14-3611
21	05	07/15	00-27	CD 73			S 47	T1	F2	P1	G008.8				OC227	SS100	34-2848
22	00	07/15	00-27	C411	V2905	M021485	S 2	T2	F2	P1	G016.0	MPG	10.1	LRB	OC411	SS	91-34-3791
23	00	07/15	00-28	C 46	V1108	M003642	S 46	T1	F2	P1	G012.4	MPG	6.7	BET	OC 46	SS	73-32-9667
24	00	07/15	00-31	C 47	V1850	M038188	S 47	T1	F2	P1	G014.1	MPG	8.5	ARA	OC 47	SS	75-36-8971
25	00	07/15	00-31	C122	V1083	M009111	S122	T1	F2	P1	G014.4	MPG	10.0	BET	OC122	SS	85-22-7259
26	00	07/15	00-33	C102	V2277	M044330	S112	T1	F2	P2	G010.0	MPG	5.9	JRA	OC102	SS	59-36-5329
27	00	07/15	00-33	C110	V2028	M008142	S114	T1	F2	P1	G014.2	MPG	6.9	ARA	OC110	SS114	46-3594
28	00	07/15	00-33	C102	V2626	M056361	S112	T1	F2	P1	G011.0	MPG	7.2	JRA	OC102	SS	35-28-6460
29	00	07/15	00-35	C442	V9037	M007773	S122	T1	F2	P1	G009.4	MPG	10.0	LRE	OC442	SS	55-34-4071
30	00	07/15	00-38	C 25	V1568	M012783	S 25	T1	F2	P1	G013.3	MPG	8.0	ARA	OC 25	SS103	38-3901
31	00	07/15	00-38	C 24	V1538	M028827	S 30	T1	F2	P1	G011.4	MPG	8.0	ARA	OC 24	SS	92-44-7740
32	00	07/15	00-41	C 40	V1748	M015559	S 42	T1	F2	P1	G013.0	MPG	6.6	ARA	OC 40	SS120	34-4120
33	20	07/15	00-42	C415	V9045		S 5	T1	F2	P1	G009.9			LRE	OC 22	SS137	30-2234
34	00	07/15	00-52	C104	V2009	M037591	S104	T1	F2	P1	G012.2	MPG	9.0	ARA	OC104	SS	71-32-9018
35	00	07/15	00-54	C 46	V0332	M033228	S 46	T1	F2	P1	G011.6	MPG	9.3	JRD	OC 46	SS	99-36-7093
36	00	07/15	00-54	C 47	V2326	M031959	S 47	T1	F2	P1	G014.9	MPG	7.1	ARA	OC 47	SS	74-34-6297
37	00	07/15	00-55	C122	V2432	M090383	S122	T1	F2	P1	G013.5	MPG	8.7	JRA	OC122	SS113	38-1169
38	00	07/15	00-56	C 26	V2013	M001274	S 26	T1	F2	P1	G015.2	MPG	6.5	BET	OC 26	SS	51-40-6683
39	20	07/15	00-56	C108	V1759		S112	T1	F2	P2	G014.5			ARA	OC102	SS	85-36-4034
40	00	07/15	01-00	C 52	V2341	M013556	S 50	T1	F2	P1	G005.9	MPG	17.2	ARA	OC 52	SS	72-38-7243
41	20	07/15	01-10	C114	V1921		S100	T1	F2	P1	G013.2			ARA	OC104	SS	69-28-4451
42	00	07/15	01-13	C 52	V2750	M006577	S 46	T1	F2	P1	G014.3	MPG	8.9	BET	OC 52	SS	61-46-8011
43	00	07/15	01-19	C 48	V2520	M041976	S 42	T1	F2	P1	G014.0	MPG	4.2	JRA	OC 48	SS	75-36-7680
44	00	07/15	01-19	C 50	V2742	M046420	S 50	T1	F2	P1	G012.2	MPG	7.1	JRA	OC 50	SS123	34-1127
45	00	07/15	01-24	C411	V2883	M030723	S 2	T1	F2	P1	G014.2	MPG	9.5	UPB	UC411	SS	62-30-9704
46	00	07/15	01-27	C 34	V2425	M022892	S 34	T1	F2	P1	G015.6	MPG	4.5	ARA	OC 34	SS233	68-0062
47	48	07/15	01-36	6	976.0	MC157	S000	T1	F2	P1						SS	88-36-4009
48	00	07/15	01-43	C103	V2600	M054511	S105	T1	F2	P1	G015.0	MPG	8.5	JRA	OC103	SS112	38-6028
49	05	07/15	01-50		C0158		S112	T1	F2	P1	G005.0				OC108	SS	94-36-4870
50	00	07/15	01-52	C 42	V6088	M054263	S 42	T1	F2	P1	G019.2	MPG	5.4	PQV	OC 42	SS	68-32-0100
51	00	07/15	02-48	C458	V5538	M059605	S 3	T2	F1	P1	G013.0	MPG	7.1	TIV	OC450	SS113	34-1022
52	00	07/15	03-12	C 43	V0414	M024882	S 43	T2	F2	P2	G016.3	MPG	8.7	PRY	OC 43	SS	87-48-3142
53	00	07/15	03-14	C110	V1044	M002038	S112	T1	F2	P1	G015.2	MPG	7.6	BET	OC110	SS	84-34-3819
54	00	07/15	03-17	C109	V2662	M055921	S109	T1	F2	P1	G015.0	MPG	8.0	JRA	OC109	SS104	30-5513
55	00	07/15	03-39	C578	V4107	M040543	S 25	T1	F2	P1	G014.7	MPG	7.0	TJM	OC 25	SS	78-50-4395

FUEL RECD-MAN

SY. PO	TRANSACTION FILES	- ALL FOR CIV DATE -	09-33	08/12/01	Page 1
5166	00 08/07 23-59 C 53 V2088 M031252	S 50 T1 F2 P1 G011.0 MPG 6.6	ARA UC 50	SS124-42-1393	
5167	00 08/07 00-00 C120 V2019 M 12895	S120 T1 F2 P1 G011.0 MPG 6.6	JRA UC120	SS125-34-2622	
5168	00 08/07 00-01 C 40 V1765 M015612	S 48 T1 F2 P1 G011.0 MPG 6.6	ARA UC 40	SS113-40-3308	
5169	00 08/07 00-05 C 47 V2325 M034765	S 47 T1 F2 P1 G008.9 MPG 9.1	ARA UC 47	SS 97-18-5622	
5170	00 08/07 00-05 C442 V2900 M040045	S122 T1 F2 P2 G008.6 MPG 8.1	LKY UC442	SS107-36-8637	
5171	00 08/07 00-08 C102 V2190 M024002	S112 T1 F2 P1 G008.5 MPG10.8	ARA UC102	SS118-32-5994	
5172	00 08/07 00-09 C110 V2247 M044055	S110 T1 F2 P1 G010.0 MPG11.0	ARA UC110	SS104-30-6627	
5173	00 08/07 00-09 C107 V1360 M037795	S109 T1 F2 P1 G011.8 MPG 7.7	ARA UC109	SS 81-32-3377	
5174	00 08/07 00-10 C114 V2227 M030663	S 12 T2 F2 P1 G010.8 MPG 8.1	ARA UC114	SS129-44-1268	
5175	00 08/07 00-11 C 28 V2184 M021063	S 28 T1 F2 P2 G010.0 MPG 7.0	AKA UC 28	SS109-38-7477	
5176	00 08/07 00-11 C442 V9037 M010802	S122 T1 F2 P2 G011.1 MPG 8.2	LRC UC442	SS 53-34-4071	
5177	00 08/07 00-15 C107 V1614 M051574	S109 T1 F2 P1 G016.0 MPG 8.9	ARU UC107	SS 76-36-2339	
5178	00 08/07 00-16 C 40 V0352	S 40 T1 F2 P1 G015.6	JRU UC 40	SS127-42-3668	
5179	00 08/07 00-20 C411 V9051 M011321	S 2 T1 F2 P1 G014.0 MPG 8.5	LRE UC413	SS 59-36-7035	
5180	00 08/07 00-21 C 34 V2035 M022472	S 30 T1 F2 P2 G014.1 MPG 6.7	HET UC 34	SS 56-32-7351	
5181	00 08/07 00-21 C450 V5017 M003512	S 26 T1 F2 P1 G010.9 MPG 1.9	LHP UC450	SS 52-36-1813	
5182	00 08/07 00-27 C100 V1524 M001134	S101 T1 F2 P1 G015.1 MPG 8.9	HET UC100	SS119-22-6353	
5183	00 08/07 00-27 C450 V5542 M020970	S 26 T1 F2 P1 G010.3 MPG 1.8	UHV UC450	SS107-34-4238	
5184	00 08/07 00-28 C110 V1620 M000823	S110 T1 F2 P1 G014.0 MPG 9.0	HET UC110	SS 64-42-9915	
5185	00 08/07 00-29 C105 V2766 M070503	S105 T1 F2 P2 G009.1 MPG12.0	JRA UC105	SS 91-30-5640	
5186	00 08/07 00-31 NEW C030769 ULD 15535			SS100-38-6181 NEW CARD #	
5187	00 08/07 00-31 NEW C030750 ULD 15555			SS125-32-4064 NEW CARD #	
5188	00 08/07 00-32 NEW C030751 ULD 15556			SS113-28-5448 NEW CARD #	
5189	00 08/07 00-32 NEW C030752 ULD 15557			SS 86-40-9699 NEW CARD #	
5190	00 08/07 00-33 C 24 V1692 M015991	S 20 T1 F2 P1 G013.2 MPG 6.6	ARA UC 24	SS 56-36-6046	
5191	00 08/07 00-33 NEW C030753 ULD 15565			SS 65-36-6396 NEW CARD #	
5192	00 08/07 00-33 C 9 V2365 M 17513	S 23 T1 F2 P2 G010.3 MPG 6.6	ARA UC 9	SS126-28-6100	
5193	00 08/07 00-33 NEW C030754 ULD 15570			SS 73-34-3750 NEW CARD #	
5194	00 08/07 00-33 NEW C030755 ULD 15571			SS 61-34-4472 NEW CARD #	
5195	00 08/07 00-36 C 34 V2220 M019301	S 34 T1 F2 P1 G013.5 MPG 7.1	ARA UC 34	SS107-34-4278	
5196	00 08/07 00-36 NEW C030756 ULD 15587			SS 80-32-2727 NEW CARD #	
5197	00 08/07 00-36 NEW C030757 ULD 15589			SS 63-36-6991 NEW CARD #	
5198	00 08/07 00-37 NEW C030758 ULD 15590			SS 94-30-6663 NEW CARD #	
5199	00 08/07 00-38 NEW C030759 ULD 15591			SS 65-36-9525 NEW CARD #	
5200	00 08/07 00-38 NEW C030760 ULD 15593			SS263-44-3488 NEW CARD #	
5201	00 08/07 00-39 NEW C030761 ULD 18276			SS 94-42-2294 NEW CARD #	
5202	00 08/07 00-39 C114 V0832 M050750	S110 T1 F2 P1 G021.2 MPG 6.6	JRY UC114	SS 71-40-1719	
5203	00 08/07 00-39 NEW C030762 ULD 18633			SS 80-34-5501 NEW CARD #	
5204	00 08/07 00-40 NEW C030763 ULD 18789			SS111-40-1644 NEW CARD #	
5205	00 08/07 00-40 NEW C030764 ULD 22417			SS 65-36-5366 NEW CARD #	
5206	00 08/07 00-42 C 26 V1841	S 23 T1 F2 P2 G005.0	XGL UC 26	SS 53-42-9184	
5207	00 08/07 00-44 C100 V1700 M049409	S101 T1 F2 P1 G011.3 MPG 9.5	AKA UC100	SS 65-36-1449	
5208	00 08/07 00-44 C 26 V1841	S 23 T1 F2 P1 G005.0	XGL UC 26	SS 53-42-9184	
5209	00 08/07 00-45 C 47 V1046 M015939	S 47 T1 F2 P1 G015.6 MPG 6.7	JRA UC 47	SS354-32-2415	
5210	00 08/07 00-45 C102 V1308 M027549	S112 T1 F2 P2 G014.0 MPG 6.2	ARA UC102	SS 90-42-2317	
5211	00 08/07 00-45 C 26 V3861	S 23 T1 F2 P1 G002.0	XGL UC 26	SS 53-42-9184	
5212	00 08/07 00-46 C0277	S 20 T1 F2 P1 G005.1	DL 6	SS109-40-7258	
5213	00 08/07 00-47 C 46 V1514 M008058	S 46 T1 F2 P1 G011.7 MPG 8.5	AKA UC 46	SS129-34-0550	
5214	00 08/07 00-48 C114 V1921	S101 T1 F2 P1 G016.1	AKA UC100	SS113-34-4744	
5215	00 08/07 00-48 C 18 V8993	S 5 T1 F2 P1 G016.3	TIY UC 18	SS134-34-8273	
5216	00 08/07 00-47	147 149		TERM OFF-LINE	
5217	00 08/07 00-47	187 LN?		TERM ON-LINE	
5218	00 08/07 00-48	LN?		TCL LINE ON	
5219	00 08/07 00-48 C411 V2904 M019301	S 2 T1 F2 P1 G014.9 MPG 7.1	ARB UC411	SS 67-34-2354	

SYCD	TRANSACTION FILES	- BY EQUIP. NUMBER -	09-40	08/12/81	PAGE	3
SELECT TP DATE TIME						
06	00	03/08	07-32	C 43	V1798	M023396 S 43 T1 F2 P1 G012.4 MPG 0.1 ARA UC 43 55126-34-0709
06	00	06/09	03-32	C 43	V1798	M023526 S 43 T1 F2 P2 G018.0 MPG 7.2 ARA OL 43 55112-38-1551
06	00	04/10	07-37	C 43	V1798	M023632 S 43 T1 F2 P1 G012.9 MPG 0.2 ARA UC 43 55128-36-0063
1052	00	08/10	20-18	C 43	V1798	M023730 S 43 T1 F2 P1 G011.4 MPG 8.5 ARA UC 43 55123-34-5958
3352	00	06/12	04-14	C 43	V1798	M023841 S 43 T1 F2 P1 G011.0 MPG 10.0 ARA UC 43 55112-38-1551
TOTAL TRANSACTIONS THIS REPORT		5	GALLONS ISSUED		65.7	GALLONS RECEIVED 0.0

REPORT COMPLETE

SEQ # TP DATE TIME

4	00	07/15	00-13	C123	V1218	M023927	S123	T1	F2	P1	G011.0	MPG11.0	ARA	OC123	SS111-28-5355
72	00	07/15	06-15	C123	V2789	M068841	S123	T1	F2	P1	G010.7	MPG11.0	JRA	OC123	SS 61-26-7135
135	00	07/15	08-00	C123	V1968	M048024	S123	T1	F2	P1	G018.0	MPG 7.5	ARA	OC123	SS109-24-5448
137	00	07/15	08-02	C123	V1595	M081279	S123	T1	F2	P1	G005.9	MPG33.3	JRA	OC123	SS 79-30-2878
218	00	07/15	09-09	C123	V2520	M092402	S123	T1	F2	P1	G010.1	MPG 9.8	JRA	OC123	SS 91-28-8667
272	31	07/15	09-58	G	395.0										
274	00	07/15	10-00	C123	V2231	M089020	S123	T1	F2	P1	G007.9	MPG 8.3	JRA	OC123	SS 80-34-7480
451	00	07/15	12-40	C123	V2200	M078781	S123	T1	F2	P1	G015.0	MPG11.8	JRA	OC123	SS131-34-3364
489	55	07/15	13-21	G00050.0											NEW CUT-JFF PT
603	00	07/15	15-32	C 13	V2611	M083160	S123	T1	F2	P1	G014.6	MPG 9.7	JRA	OC123	SS109-32-1110
765	00	07/15	16-37	C123	V2252	M066638	S123	T1	F2	P1	G011.7	MPG16.1	JRA	OC123	SS 93-30-2458
770	00	07/15	16-43	C123	V2789	M068957	S123	T1	F2	P1	G008.7	MPG13.3	JRA	OC123	SS 93-30-2458
864	00	07/15	19-03	C123	V1211	M061546	S123	T1	F2	P1	G010.3	MPG12.3	ARA	OC123	SS427-78-5212
1010	00	07/15	21-32	C123	V1218	M024050	S123	T1	F2	P1	G013.3	MPG 9.2	ARA	OC123	SS105-30-5520
1022	00	07/15	21-59	C533	V8332	M071410	S123	T1	F2	P1	G016.2	MPG11.9	RQY	OC123	SS 79-30-6252
1300	00	07/16	07-14	C123	V2789	M069029	S123	T1	F2	P1	G005.8	MPG12.4	JRA	OC123	SS427-78-5212
1358	00	07/16	08-11	C123	V1595	M081443	S123	T1	F2	P1	G014.0	MPG11.7	JRA	OC123	SS 91-28-8667
1363	00	07/16	08-16	C123	V2200	M078933	S123	T1	F2	P1	G012.1	MPG12.5	JRA	OC123	SS 92-42-5707
1370	00	07/16	08-19	C123	V1218	M024123	S123	T1	F2	P1	G007.4	MPG 9.8	ARA	OC123	SS111-28-5040
1618	00	07/16	11-43	C123	V1211	M061653	S123	T1	F2	P1	G011.7	MPG 9.1	ARA	OC123	SS 68-42-4202
1822	00	07/16	15-27	C123	V1968	M048191	S123	T1	F2	P1	G014.1	MPG11.8	ARA	OC123	SS 70-42-7457
1864	00	07/16	16-45	C123	V2231	M089170	S123	T1	F2	P1	G013.1	MPG11.4	JRA	OC123	SS 70-42-6042
1384	00	07/16	17-08	C123	V1595	M081527	S123	T1	F2	P1	G008.0	MPG10.5	JRA	OC123	SS 93-30-2458
1931	02	07/16	17-49	C442	V9037	M 82630	S123	T1	F2	P1	G018.7	MPG .	LRE	OC442	SS 82-32-5931
2049	00	07/16	21-20	C123	V2789	M069170	S123	T1	F2	P1	G008.3	MPG16.9	JRA	OC123	SS 86-40-9946
2245	00	07/17	07-24	C123	V2252	M066755	S123	T1	F2	P1	G011.2	MPG10.4	JRA	OC123	SS 73-36-0354
2249	00	07/17	07-29	C123	V1218	M024247	S123	T1	F2	P1	G009.7	MPG12.7	ARA	OC123	SS 91-28-8667
2307	00	07/17	08-13	C 13	V2611	M083453	S123	T1	F2	P1	G015.7	MPG 9.0	JRA	OC123	SS 79-30-2878
2313	00	07/17	08-17	C123	V1968	M048285	S123	T1	F2	P1	G010.8	MPG 8.7	ARA	OC123	SS126-28-8483
2319	00	07/17	08-21	C123	V1595	M081602	S123	T1	F2	P1	G008.7	MPG 8.6	JRA	OC123	SS 62-24-0682
2385	90	07/17	09-00	G	.0	MC 53	S123	T1	F2	P1					SS104-32-0978 FUEL RECD-MAN
2386	40	07/17	09-01	G	267.0	MC 53	S123	T1	F2	P1					SS104-32-0978 FUEL RECD-MAN
2550	00	07/17	11-26	C123	V2520	M092608	S123	T1	F2	P1	G010.7	MPG11.7	JRA	OC123	SS109-24-4448
2748	00	07/17	15-46	C123	V2200	M079076	S123	T1	F2	P1	G013.5	MPG10.5	JRA	OC123	SS 96-34-8759
2885	00	07/17	18-00	C123	V2231	M089322	S123	T1	F2	P1	G010.2	MPG14.9	JRA	OC123	SS115-32-3850
2979	00	07/17	20-07	C123	V2789	M069252	S123	T1	F2	P1	G009.2	MPG 8.9	JRA	OC123	SS125-40-8040
2985	00	07/17	20-18	C123	V1595	M081718	S123	T1	F2	P1	G008.4	MPG13.8	JRA	OC123	SS 86-40-9946
3110	00	07/17	23-55	C123	V1968	M048377	S123	T1	F2	P1	G009.0	MPG10.2	ARA	OC123	SS104-34-6739
3387	00	07/18	07-33	C123	V1218	M024323	S123	T1	F2	P1	G010.1	MPG 7.5	ARA	OC123	SS111-28-5040
3396	00	07/18	07-40	C123	V2520	M092707	S123	T1	F2	P1	G011.4	MPG 8.6	JRA	OC123	SS 79-30-2878
3403	00	07/18	07-47	C123	V2252	M066847	S123	T1	F2	P1	G004.5	MPG20.4	JRA	OC123	SS129-42-0977
3484	00	07/18	10-04	C123	V2789	M069285	S123	T1	F2	P1	G002.7	MPG12.2	JRA	OC123	SS 62-24-0682
3635	00	07/18	15-01	C123	V2231	M089464	S123	T1	F2	P1	G013.4	MPG10.5	JRA	OC123	SS131-34-3364
3647	00	07/18	15-34	C123	V1968	M048450	S123	T1	F2	P1	G005.5	MPG13.2	ARA	OC123	SS 93-30-2458
3650	00	07/18	15-39	C123	V2520	M092814	S123	T1	F2	P1	G008.7	MPG12.2	JRA	OC123	SS 68-42-4956
3660	00	07/18	15-44	C123	V2200	M079212	S123	T1	F2	P1	G012.5	MPG10.8	JRA	OC123	SS 67-30-8431
3745	00	07/18	17-45	C123	V1211	M061882	S123	T1	F2	P1	G007.8	MPG18.2	ARA	OC123	SS 54-42-3242
3904	00	07/18	20-04	C123	V1595	M081831	S123	T1	F2	P1	G009.6	MPG11.7	JRA	OC123	SS104-32-1024
3862	00	07/18	23-53	C123	V1968	M048512	S123	T1	F2	P1	G005.8	MPG10.6	ARA	OC123	SS243-84-6017
3903	00	07/19	00-33	C 13	V2611	M083564	S123	T1	F2	P1	G011.9	MPG 9.3	JRA	OC123	SS104-34-6739
3983	00	07/19	07-08	C123	V2231	M089580	S123	T1	F2	P1	G012.9	MPG 8.9	JRA	OC123	SS125-40-6477
3987	00	07/19	07-20	C123	V2252	M066907	S123	T1	F2	P1	G005.7	MPG10.5	JRA	OC123	SS 73-36-0354
3995	00	07/19	07-43	C123	V2789	M069377	S123	T1	F2	P1	G009.5	MPG 9.6	JRA	OC123	SS 50-38-9176

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51	00	07/15	02-48	C450	V5538	M059605	S	3	T2	F1	P1	G013.0	MPG 7.1	TIV	OC450	SS113-34-1022
92	00	07/15	07-09	C411	V8970	M 2999	S	2	T2	F1	P1	G002.4	MPG	XWJ	OC411	SS 58-42-0161
103	02	07/15	07-27	C413	V8953	M 6432	S	3	T2	F1	P1	G001.0	MPG	XWJ	OC410	SS109-44-5682
129	00	07/15	07-55	C413	V8910	M 8910	S	3	T2	F1	P1	G002.0	MPG	XWJ	OC413	SS 87-26-0823
256	05	07/15	09-41	CD	76		S	2	T2	F1	P1	G005.1		OC	52	SS117-32-0402
278	00	07/15	10-33	C570	V3431	M039066	S	2	T2	F1	P1	G008.7	MPG12.0	TMP	OC570	SS119-16-8546
359	20	07/15	14-43	C413	V8956		S	3	T2	F1	P1	G003.2		XWJ	OC413	SS 95-44-4470
571	20	07/15	14-55	C411	V8941		S	2	T2	F1	P1	G005.0		XWJ	OC411	SS 50-36-0846
594	20	07/15	15-21	C411	V8946		S	2	T2	F1	P1	G001.1		XWJ	OC410	SS 66-40-7382
825	00	07/15	18-20	C570	V3418	M032396	S	3	T2	F1	P1	G016.0	MPG 5.2	GJP	OC570	SS109-28-0363
1242	00	07/16	03-16	C450	V5538	M059794	S	3	T2	F1	P1	G010.4	MPG 8.8	TIV	OC450	SS113-34-1022
1292	20	07/16	07-06	C410	V8915		S	2	T2	F1	P1	G005.0		XWJ	OC411	SS 58-42-0161
1301	00	07/16	07-15	C411	V8922	M019353	S	2	T2	F1	P1	G002.6	MPG21.5	XWJ	OC411	SS126-34-3758
1328	20	07/16	07-51	C413	V8962		S	3	T2	F1	P1	G003.2		XWJ	OC413	SS120-36-5343
1334	20	07/16	08-00	C411	V8932		S	2	T2	F1	P1	G005.0		XWJ	OC411	SS 84-40-3874
1342	00	07/16	08-02	C411	V8984	M 8984	S	2	T2	F1	P1	G001.7	MPG	XWJ	OC411	SS124-22-7328
1539	05	07/16	10-33	CD	266		S	3	T2	F1	P1	G015.5		OC	562	SS105-28-2301
1629	20	07/16	11-57	C413	V8956		S	3	T2	F1	P1	G001.9		XWJ	OC410	SS109-44-5682
1754	20	07/16	14-52	C411	V8946		S	2	T2	F1	P1	G002.0		XWJ	OC410	SS 66-40-7382
1756	20	07/16	14-57	C410	V8915		S	2	T2	F1	P1	G002.9		XWJ	OC411	SS 53-36-0004
1766	20	07/16	15-06	C410	V8918		S	2	T2	F1	P1	G002.2		XWJ	OC415	SS109-32-0194
1798	05	07/16	15-41	CD	266		S	3	T2	F1	P1	G017.0		OC	125	SS 59-30-8647
2225	31	07/17	06-49	G	479.0			123	2	1	1					
2255	20	07/17	07-31	C413	V8908		S	2	T2	F1	P1	G004.0		XWJ	OC410	SS109-44-5682
2258	20	07/17	07-35	C411	V8970		S	2	T2	F1	P1	G002.4		XWJ	OC411	SS 58-42-0161
2383	20	07/17	08-59	C413	V8931		S	2	T2	F1	P1	G005.0		XWJ	OC413	SS116-26-0636
2470	00	07/17	10-10	C570	V3431	M039182	S	2	T2	F1	P1	G011.0	MPG10.5	TMP	OC570	SS119-16-8546
2556	20	07/17	11-31	C411	V8944		S	2	T2	F1	P1	G002.1		XWJ	OC410	SS 73-36-1475
2640	05	07/17	13-16	CD	266		S	3	T2	F1	P1	G007.3		OC	125	SS 58-36-0139
2685	31	07/17	14-21	G	226.0			123	2	1	1					
2698	20	07/17	14-34	C413	V8956		S	3	T2	F1	P1	G001.6		XWJ	OC413	SS 95-44-4470
2707	20	07/17	14-44	C413	V8903		S	3	T2	F1	P1	G005.0		XWJ	OC413	SS 72-32-7232
2711	20	07/17	14-46	C413	V8925		S	3	T2	F1	P1	G000.7		XWJ	OC413	SS 91-34-1084
2784	05	07/17	16-12	CD	266		S	3	T2	F1	P1	G011.8		OC	107	SS 95-34-3788
2868	05	07/17	17-47	CD	76		S	2	T2	F1	P1	G009.0		OC	52	SS 87-26-1933
2930	05	07/17	18-42	CD	266		S	3	T2	F1	P1	G007.9		OC	107	SS 62-24-1159
2996	05	07/17	20-45	CD	266		S	3	T2	F1	P1	G011.3		OC	107	SS 55-36-5748
3019	05	07/17	21-23	CD	76		S	2	T2	F1	P1	G005.5		OC	52	SS133-34-4088
3398	20	07/18	07-42	C410	V8915		S	2	T2	F1	P1	G004.3		XWJ	OC411	SS 61-36-6763
3491	20	07/18	10-11	C411	V8941		S	2	T2	F1	P1	G001.5		XWJ	OC411	SS100-34-8259
3538	05	07/18	11-35	CD	76		S	2	T2	F1	P1	G005.0		OC	52	SS117-32-0402
3941	00	07/19	02-24	C450	V5540	M032764	S	2	T2	F1	P1	G010.0	MPG 5.4	UHV	OC450	SS103-32-5699
4066	20	07/19	09-11	C410	V8909		S	3	T2	F1	P1	G005.0		XWJ	OC413	SS 71-34-2681
4200	20	07/19	14-34	C413	V8956		S	3	T2	F1	P1	G003.2		XWJ	OC413	SS 95-44-4470
4218	05	07/19	15-24	CD	76		S	2	T2	F1	P1	G003.4		OC	52	SS133-34-4088
4350	00	07/19	20-55	C570	V3418	M032510	S	3	T2	F1	P1	G018.6	MPG 6.1	GJP	OC570	SS109-28-0363
4444	30	07/20	05-06	C450	V5538	M060479	S	3	T2	F1	P1	G008.0	MPG29.7	TIV	OC450	SS132-34-6317
4661	05	07/20	10-19	CD	4		S	3	T2	F1	P1	G006.0		OC	533	SS106-28-1069

TOTAL TRANSACTIONS THIS REPORT 48 GALLONS ISSUED 276.5 GALLONS RECEIVED 705.0

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00	03/08	00-12	C 25	V1781	M024018	S 25	T1	F2	P1	G013.0	MPG 6.4	ARA UC 25	SS 92-38-0255
00	06/08	00-17	C 44	V1225	M029606	S 46	T1	F2	P1	G012.0	MPG 9.4	ARA UC 44	SS125-38-5939
10	03/08	00-20	C 34	V2220	M019382	S 30	T1	F2	P1	G013.4	MPG 6.0	ARA UC 34	SS 50-30-0645
11	03/08	00-20	C102	V2193	M024120	S 3	T1	F2	P1	G015.3	MPG 7.7	ARA UC102	SS127-28-2966
14	03/08	00-23	C 42	V1371	M034465	S 48	T1	F2	P1	G010.4	MPG 6.2	ARA UC 42	SS116-44-0398
15	03/08	00-27	C 43	V1922	M 20735	S 40	T1	F2	P1	G000.2	MPG .	ARA UC 40	SS 12-42-8040
24	03/08	00-31	C 40	V1922	M 20735	S 46	T1	F2	P1	G010.3	MPG .	ARA UC 40	SS 72-42-8340
33	03/08	01-19	C 34	V2272	M031448	S 30	T1	F2	P1	G016.0	MPG 6.1	ARA UC 34	SS 52-30-0515
34	03/08	01-30	C114	V1921		S100	T1	F2	P1	G013.1		ARA UC100	SS113-34-4744
37	03/08	01-34	C 46	V1457	M015149	S 40	T1	F2	P1	G016.0	MPG 8.0	ARA UC 46	SS101-38-6363
41	03/08	01-39	C111	V2176	M040737	S111	T1	F2	P2	G011.0	MPG10.2	ARA UC111	SS 80-36-8621
42	03/08	02-36	C 42	V1571	M021819	S 46	T1	F2	P1	G011.8	MPG10.4	ARA UC 42	SS125-26-8643
44	03/08	03-37	C 28	V2184	M021135	S 28	T1	F2	P1	G012.9	MPG 5.3	ARA UC 28	SS 71-40-4586
51	03/08	04-27	C 50	V2357	M016530	S 50	T1	F2	P1	G012.1	MPG 9.8	ARA UC 50	SS102-32-2101
53	03/08	05-01	C 40	V1746	M017463	S 46	T1	F2	P1	G012.1	MPG 9.3	ARA UC 40	SS 56-44-2764
55	03/08	05-02	C 30	V1962	M019768	S 30	T1	F2	P2	G011.0	MPG 5.0	ARA UC 30	SS168-32-6668
58	03/08	05-04	C109	V2308	M013500	S109	T1	F2	P1	G017.9	MPG 7.0	ARA UC109	SS 84-34-2829
59	03/08	05-18	C 19	V1521	M010270	S 20	T1	F2	P1	G011.6	MPG 7.5	ARA UC 19	SS100-18-7654
60	03/08	05-34	C 19	V2416	M011818	S 5	T1	F2	P1	G014.1	MPG 9.2	ARA UC 19	SS125-34-5058
62	03/08	05-48	C 47	V2382	M040395	S 47	T1	F2	P1	G015.8	MPG 8.2	ARA UC 47	SS 78-56-6163
64	03/08	05-52	C 25	V1373	M021308	S 25	T1	F2	P1	G009.0	MPG10.2	ARA UC 25	SS134-38-3177
67	03/08	05-59	C113	V1239	M048706	S113	T1	F2	P1	G015.7	MPG 9.8	ARA UC113	SS141-28-8464
70	03/08	06-00	C108	V1759	M 44362	S111	T1	F2	P1	G000.1	MPG .	ARA UC108	SS104-30-8630
76	03/08	06-49	C108	V1759	M 44362	S111	T1	F2	P2	G016.8	MPG .	ARA UC108	SS104-30-6030
82	03/08	07-15	C113	V2172	M027205	S113	T2	F2	P1	G014.0	MPG10.2	ARA UC113	SS131-32-5274
83	03/08	07-16	C103	V1388	M041112	S103	T1	F2	P1	G011.6	MPG 8.2	ARA UC103	SS 57-34-3340
84	03/08	07-22	C107	V2167	M026219	S 5	T1	F2	P1	G013.5	MPG 8.5	ARA UC107	SS133-14-3253
87	03/08	07-26	C 43	V1941	M019738	S 43	T1	F2	P1	G011.6	MPG 8.3	ARA UC 43	SS111-40-6697
92	03/08	07-31	C 17	V2377		S 24	T1	F2	P1	G017.2		ARA UC 24	SS112-34-4241
93	03/08	07-31	C113	V1897	M031915	S113	T2	F2	P1	G013.5	MPG 9.1	ARA UC113	SS 46-30-1227
94	03/08	07-32	C122	V1285	M010863	S122	T1	F2	P1	G007.1	MPG 9.4	ARA UC122	SS109-30-8278
96	03/08	07-32	C 43	V1798	M023396	S 43	T1	F2	P1	G012.4	MPG 8.1	ARA UC 43	SS126-34-0909
97	03/08	07-34	C 25	V1222	M024365	S 25	T1	F2	P1	G015.1	MPG 9.1	ARA UC 25	SS 69-34-3300
99	03/08	07-37	C122	V1913	M046154	S122	T1	F2	P1	G011.8	MPG 6.6	ARA UC122	SS169-52-9642
102	03/08	07-42	C103	V1725	M017265	S103	T1	F2	P1	G015.5	MPG 6.9	ARA UC103	SS 50-42-4741
104	03/08	07-44	C120	V1510	M020786	S120	T1	F2	P1	G015.3	MPG 9.8	ARA UC120	SS 73-30-8443
111	03/08	07-54	C120	V1322	M014389	S120	T1	F2	P1	G009.8	MPG11.6	ARA UC120	SS117-26-9227
116	03/08	07-56	C103	V1422	M024229	S113	T2	F2	P1	G007.1	MPG 5.3	ARA UC151	SS 96-50-4332
117	03/08	07-52	C111	V2092	M024384	S111	T1	F2	P2	G004.0	MPG11.9	ARA UC111	SS 76-12-2972
120	03/08	08-03	C104	V1639	M050134	S104	T1	F2	P1	G010.4	MPG 9.1	ARA UC104	SS 59-38-9992
123	03/08	08-07	C104	V2089	M040497	S104	T1	F2	P1	G016.8	MPG 7.9	ARA UC104	SS 82-40-9799
127	03/08	08-08	C 45	V1706	M018941	S 45	T1	F2	P1	G014.8	MPG 7.8	ARA UC 45	SS101-42-3577
127	03/08	08-12	C103	V1449	M009030	S 3	T1	F2	P1	G015.0	MPG 8.5	ARA UC103	SS 56-46-5992
131	03/08	08-17	C107	V1876	M040597	S 3	T1	F2	P1	G012.2	MPG 8.4	ARA UC107	SS134-18-6051
132	03/08	08-18	C 32	V2165	M012783	S 32	T1	F2	P1	G011.4	MPG 6.9	ARA UC 32	SS 75-18-1796
133	03/08	08-19	C 28	V1795	M027195	S 28	T1	F2	P2	G012.1	MPG 8.3	ARA UC 28	SS121-30-8565
134	03/08	08-24	C101	V2217	M028732	S101	T1	F2	P1	G012.5	MPG 7.8	ARA UC101	SS 61-26-5648
137	03/08	08-34	C106	V1487	M012278	S113	T2	F2	P1	G011.0	MPG12.3	ARA UC151	SS 91-50-4159
137	03/08	08-30	C122	V2222	M022198	S122	T1	F2	P2	G012.0	MPG11.0	ARA UC122	SS123-30-9632
143	03/08	08-34	C 47	V1799	M034191	S 47	T1	F2	P1	G007.7	MPG 7.4	ARA UC 47	SS 91-34-4979
152	03/08	08-13	C114	V1763	M014330	S109	T2	F2	P1	G012.9	MPG11.9	ARA UC114	SS 69-34-4330
153	03/08	08-17	C 47	V2006	M026945	S 47	T1	F2	P1	G012.2	MPG 8.7	ARA UC 47	SS100-36-6738
159	03/08	08-26	C102	V1777	M041066	S112	T1	F2	P2	G009.1	MPG12.4	ARA UC102	SS105-34-5243
161	03/08	08-38	C 53	V2229	M031713	S 50	T1	F2	P1	G014.3	MPG 8.2	ARA UC143	SS123-38-1140

[illegible]

NYCPO TRANSACTION FILES - BY TRANSAL. TYPE - 13-42 07/24/61 PAGE 1

SEQ # TP DATE TIME

00- FUELING ODOMETER WITHIN RANGE

2	00	07/15	00-00	C122	V1285	M012871	S122	T1	F2	P1	G013.1	MPG	8.4	ARA	UC122	SS	93-34-7813
3	00	07/15	00-00	C 45	V1768	M031864	S 45	T1	F2	P1	G014.8	MPG	8.7	ARA	UC 45	SS	124-40-0336
4	00	07/15	00-00	C 47	V1455	M003095	S 47	T1	F2	P1	G014.0	MPG	8.0	BET	UC 47	SS	70-32-7773
5	00	07/15	00-11	C 46	V2481	M046276	S 46	T1	F2	P1	G012.8	MPG	5.7	JRA	UC 46	SS	127-32-7237
6	00	07/15	00-13	C123	V1218	M023927	S123	T1	F2	P1	G011.0	MPG	11.0	ARA	UC123	SS	111-20-5354
7	00	07/15	00-13	C 22	V2313	M043554	S 5	T1	F2	P1	G012.2	MPG	8.3	JRA	OC 22	SS	108-24-5294
8	00	07/15	00-13	C109	V1993	M040892	S109	T1	F2	P1	G013.4	MPG	7.2	ARA	OC109	SS	103-32-0228
9	00	07/15	00-15	C324	V8532	M061774	S114	T1	F2	P1	G016.1	MPG	13.1	TIO	UC114	SS	104-28-6477
10	00	07/15	00-17	C450	V5542	M020711	S 26	T1	F2	P1	G009.7	MPG	1.6	UHV	UC450	SS	107-34-4238
11	00	07/15	00-17	C 34	V1998	M001620	S 34	T1	F2	P1	G013.7	MPG	8.1	BET	UC 34	SS	109-32-1062
12	00	07/15	00-17	C105	V2079	M066369	S105	T1	F2	P1	G012.0	MPG	9.8	JRA	OC105	SS	118-32-3894
13	00	07/15	00-19	C 46	V2179	M029167	S 46	T1	F2	P1	G008.9	MPG	6.2	JRA	OC 46	SS	73-32-9667
14	00	07/15	00-20	C107	V1876	M038402	S111	T1	F2	P2	G014.3	MPG	9.7	ARA	OC107	SS	112-34-9839
15	00	07/15	00-20	C110	V1657	M030485	S114	T1	F2	P1	G015.0	MPG	6.8	ARA	UC110	SS	58-44-6689
16	00	07/15	00-20	C105	V1004	M010190	S105	T1	F2	P1	G011.4	MPG	12.2	BET	OC105	SS	84-36-3969
17	00	07/15	00-23	C450	V5517	M001188	S 26	T1	F2	P1	G018.1	MPG	4.4	LHP	UC450	SS	52-38-1813
18	00	07/15	00-23	C 25	V1673	M019812	S 25	T1	F2	P1	G010.8	MPG	9.9	ARA	OC 25	SS	83-40-9390
19	00	07/15	00-25	C110	V2342	M024997	S114	T1	F2	P1	G008.0	MPG	7.5	ARA	UC110	SS	120-14-3611
20	00	07/15	00-27	C411	V2905	M021485	S 2	T1	F2	P1	G018.0	MPG	10.1	LRB	UC411	SS	91-34-3791
21	00	07/15	00-28	C 46	V1108	M003642	S 46	T1	F2	P1	G012.4	MPG	6.7	BET	OC 46	SS	73-32-9667
22	00	07/15	00-31	C 47	V1850	M038188	S 47	T1	F2	P1	G014.1	MPG	8.3	ARA	OC 47	SS	75-36-8971
23	00	07/15	00-31	C122	V1083	M009111	S122	T1	F2	P1	G014.4	MPG	10.0	BET	UC122	SS	85-22-7259
24	00	07/15	00-33	C102	V2277	M044330	S112	T1	F2	P2	G010.0	MPG	5.9	JRA	OC102	SS	59-36-5329
25	00	07/15	00-33	C110	V2028	M008142	S114	T1	F2	P1	G014.2	MPG	6.9	ARA	UC110	SS	114-46-3594
26	00	07/15	00-33	C102	V2626	M056361	S112	T1	F2	P1	G011.0	MPG	7.2	JRA	OC102	SS	35-28-6460
27	00	07/15	00-35	C442	V9037	M007773	S122	T1	F2	P1	G009.4	MPG	18.0	LRE	UC442	SS	55-34-4071
28	00	07/15	00-38	C 25	V1588	M012785	S 25	T1	F2	P1	G013.3	MPG	8.0	ARA	OC 25	SS	103-38-3901
29	00	07/15	00-38	C 24	V1336	M028827	S 30	T1	F2	P1	G011.4	MPG	8.0	ARA	OC 24	SS	92-44-7740
30	00	07/15	00-41	C 40	V1748	M015559	S 42	T1	F2	P1	G013.0	MPG	6.6	ARA	OC 40	SS	120-34-4120
31	00	07/15	00-42	C104	V2009	M037591	S104	T1	F2	P1	G012.2	MPG	9.0	ARA	UC104	SS	71-32-9018
32	00	07/15	00-54	C 46	V0332	M033228	S 46	T1	F2	P1	G011.6	MPG	9.3	JRA	OC 46	SS	49-36-3093
33	00	07/15	00-54	C 47	V2326	M031959	S 47	T1	F2	P1	G014.9	MPG	7.1	ARA	UC 47	SS	74-34-6297
34	00	07/15	00-55	C122	V2432	M040383	S122	T1	F2	P1	G013.5	MPG	8.7	JRA	OC122	SS	113-38-1169
35	00	07/15	00-56	C 26	V2013	M001274	S 26	T1	F2	P1	G015.2	MPG	6.5	BET	OC 26	SS	51-40-6683
36	00	07/15	01-00	C 52	V2341	M013556	S 50	T1	F2	P1	G005.9	MPG	17.2	ANA	OC 52	SS	72-38-7243
37	00	07/15	01-13	C 52	V2750	M006577	S 46	T1	F2	P1	G014.3	MPG	8.9	BET	OC 52	SS	61-46-8011
38	00	07/15	01-19	C 48	V2520	M041976	S 42	T1	F2	P1	G014.0	MPG	4.2	JRA	OC 48	SS	75-36-7680
39	00	07/15	01-19	C 50	V2742	M046420	S 50	T1	F2	P1	G012.2	MPG	7.1	JRA	UC 50	SS	123-34-1127
40	00	07/15	01-24	C411	V2885	M030723	S 2	T1	F2	P1	G014.2	MPG	9.5	UFB	OC411	SS	62-38-9704
41	00	07/15	01-27	C 34	V2425	M022892	S 34	T1	F2	P1	G015.6	MPG	4.5	ARA	OC 34	SS	233-68-0062
42	00	07/15	01-43	C103	V2600	M054511	S105	T1	F2	P1	G015.0	MPG	8.5	JRA	OC103	SS	112-38-6028
43	00	07/15	01-52	C 42	V0088	M054263	S 42	T1	F2	P1	G019.2	MPG	5.4	PQY	UC 42	SS	68-32-0100
44	00	07/15	02-40	C450	V5538	M059605	S 3	T2	F1	P1	G013.0	MPG	7.1	TIV	UC450	SS	113-34-1022
45	00	07/15	03-12	C 43	V0414	M024882	S 43	T1	F2	P2	G016.3	MPG	8.7	PKY	UC 43	SS	87-38-3142
46	00	07/15	03-14	C110	V1044	M002038	S112	T1	F2	P1	G015.2	MPG	7.6	BET	UC110	SS	84-34-3819
47	00	07/15	03-17	C109	V2662	M055921	S109	T1	F2	P1	G015.0	MPG	8.0	JRA	UC109	SS	104-30-5513
48	00	07/15	03-39	C578	V4187	M040543	S 25	T1	F2	P1	G014.7	MPG	7.0	TJM	UC 25	SS	78-50-4395
49	00	07/15	03-44	C108	V7070	M016731	S114	T1	F2	P2	G014.0	MPG	10.1	ARA	UC108	SS	88-40-1687
50	00	07/15	03-54	C 44	V2709	M029067	S 46	T1	F2	P1	G013.0	MPG	6.3	JRA	OC 46	SS	119-42-5855
51	00	07/15	03-54	C 44	V2700	M029067	S 46	T1	F2	P1	G013.0	MPG	6.3	JRA	UC 46	SS	119-42-5855

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SEQ #	TP	DATE	TIME	01 - FUELING Low ODOMETER	
149	01	07/15	08-09 C 28 V1535 M 7368 S 28 T1 F2 P2 G005.0 MPG	ARA	OC 28 SS125-44-1754
186	01	07/15	08-45 C366 V5362 M 54217 S 12 T1 F2 P1 G018.9 MPG	QRP	UC366 SS101-44-8483
204	01	07/15	09-00 C 45 V2098 M 30718 S 42 T1 F2 P1 G012.4 MPG	JRA	OC 44 SS584-01-7193
280	01	07/15	10-04 C 46 V2088 M 32916 S 46 T1 F2 P1 G012.5 MPG	JRA	OC 46 SS113-40-9095
306	01	07/15	10-29 C227 V8350 M 12358 S 45 T1 F2 P1 G009.7 MPG	AID	OC227 SS 88-22-9507
333	01	07/15	10-46 C201 V7175 M 4750 S 3 T1 F2 P1 G021.0 MPG	QEQ	UC201 SS 59-30-0321
351	01	07/15	10-59 C343 V8389 M 51508 S112 T1 F2 P2 G012.8 MPG	RHD	OC343 SS 78-30-0089
353	01	07/15	11-00 C153 V2126 M 48234 S 24 T2 F2 P1 G019.7 MPG	IRT	OC199 SS100-34-1418
379	01	07/15	11-19 C319 V0639 M 8598 S110 T1 F2 P1 G009.5 MPG	ARD	UC110 SS133-26-2166
428	01	07/15	12-06 C 23 V1281 M 7292 S 23 T1 F2 P2 G011.5 MPG	ARA	OC 23 SS109-38-5017
459	01	07/15	12-49 C246 V7203 M 26949 S 47 T1 F2 P1 G013.9 MPG	TJP	OC246 SS 81-42-8490
471	01	07/15	13-05 C276 V8473 M 48914 S 47 T1 F2 P1 G014.4 MPG	GPJ	UC282 SS130-32-2467
487	01	07/15	13-20 C246 V0418 M 29111 S 43 T1 F2 P2 G012.8 MPG	PRY	OC246 SS 95-42-9082
483	01	07/15	13-20 C120 V2064 M 2505 S120 T1 F2 P1 G017.1 MPG	BET	OC120 SS108-22-7407
583	01	07/15	15-07 C 46 V1439 M 1683 S 46 T1 F2 P1 G012.7 MPG	ARA	OC 46 SS239-80-7134
606	01	07/15	15-36 C490 V2199 M 2199 S109 T1 F2 P1 G012.8 MPG	ARA	OC490 SS104-30-5171
779	01	07/15	17-01 C 44 V1791 M 14947 S 40 T1 F2 P1 G015.9 MPG	JRA	OC 44 SS120-28-8864
830	01	07/15	18-29 C322 V0150 M 95225 S112 T1 F2 P1 G016.5 MPG	URY	OC112 SS100-32-8482
871	01	07/15	19-10 C533 V8497 M 20682 S 2 T1 F2 P1 G014.4 MPG	LIY	OC533 SS 75-28-8841
883	01	07/15	19-28 C316 V8632 M 52667 S 3 T1 F2 P1 G011.0 MPG	HRU	OC316 SS 89-30-9979
1007	01	07/15	21-25 C490 V1904 M 1904 S 28 T1 F2 P1 G010.2 MPG	ARA	OC490 SS 87-38-2258
1008	01	07/15	21-26 C 42 V2515 M 33034 S 46 T1 F2 P1 G013.5 MPG	JRA	OC141 SS 97-28-5111
1050	01	07/15	22-53 C110 V9015 M 13204 S110 T1 F2 P1 G021.9 MPG	TRY	UC110 SS106-42-1885
1059	01	07/15	23-14 C 24 V9652 M 9652 S 24 T2 F2 P1 G001.4 MPG	WNK	UC 24 SS 84-34-0153
1120	01	07/16	00-19 C442 V9037 M 7084 S122 T1 F2 P1 G016.1 MPG	LRE	OC442 SS 55-34-4071
1122	01	07/16	00-22 C 44 V1681 M 20199 S 48 T1 F2 P1 G013.0 MPG	ARA	OC 44 SS 53-36-0477
1368	01	07/16	03-19 C 25 V1368 M 12735 S 25 T1 F2 P1 G016.0 MPG	ARA	OC 25 SS102-38-7129
1389	01	07/16	08-38 C370 V6079 M 6079 S 45 T1 F2 P1 G023.0 MPG	SFC	UC370 SS 71-36-4510
1408	01	07/16	08-50 C570 V6070 M 1260 S 12 T1 F2 P1 G015.3 MPG	UME	OC570 SS250-66-1804
1528	01	07/16	10-23 C156 V1101 M 3529 S111 T1 F2 P2 G015.6 MPG	BET	OC156 SS123-26-8249
1534	01	07/16	10-30 C190 V8404 M 80653 S 48 T1 F2 P1 G017.7 MPG	RID	OC190 SS121-34-4086
1534	01	07/16	10-30 C190 V8404 M 80653 S 48 T1 F2 P1 G017.7 MPG	RID	OC190 SS121-34-4086

SEQ # TP DATE TIME

02 FUELING HIGH ODMETER

15	J2	07/15	00-20	C 34	V0031	M 54720	S 34	T1	F2	P1	G017.3	MPG	.	GSD	OC 34	SS131-34-9597
81	J2	07/15	00-35	C128	V8569	M041260	S 11	T1	F2	P1	G015.7	MPG38.8	.	SFD	OC128	SS 96-34-0581
103	J2	07/15	07-27	C413	V8953	M 6432	S 3	T2	F1	P1	G001.0	MPG	.	XWJ	OC410	SS109-44-5682
108	J2	07/15	07-33	C544	V0293	M023373	S 3	T1	F2	P1	G012.1	MPG64.4	.	ARY	OC544	SS 91-32-1395
109	J2	07/15	07-35	C593	V0766	M 18043	S 25	T1	F2	P1	G016.0	MPG	.	JRD	OC580	SS 84-34-5782
170	J2	07/15	08-26	C470	V1466	M044735	S114	T1	F2	P1	G015.4	MPG38.5	.	JRA	OC470	SS107-38-2835
212	J2	07/15	09-08	C219	V8327	M049483	S 47	T1	F2	P1	G017.0	MPG18.7	.	RQY	OC219	SS124-16-0086
257	J2	07/15	09-42	C490	V5385	M 35498	S 40	T1	F2	P1	G015.0	MPG	.	QRP	OC 40	SS117-32-9398
275	J2	07/15	10-00	C 26	V2659	M040062	S 26	T1	F2	P1	G014.4	MPG49.3	.	JRA	OC 26	SS107-32-7455
283	J2	07/15	10-07	C204	V7172	M040104	S122	T1	F2	P1	G017.2	MPG26.3	.	JBV	OC216	SS 55-34-3740
317	J2	07/15	10-33	C107	V1781	M 47448	S 3	T1	F2	P1	G015.0	MPG	.	ARA	OC107	SS 59-28-8182
327	J2	07/15	10-42	C544	V8697	M066385	S 47	T1	F2	P1	G021.0	MPG13.0	.	TIY	UC544	SS132-32-2421
357	J2	07/15	11-00	C367	V0559	M000815	S 34	T1	F2	P1	G015.1	MPG38.5	.	BEY	OC367	SS106-18-8304
360	J2	07/15	11-07	C128	V8531	M 57120	S 11	T1	F2	P1	G007.7	MPG	.	SIO	UC128	SS 89-38-3022
385	J2	07/15	11-28	C269	V0657	M 84258	S 2	T1	F2	P1	G010.8	MPG	.	ARD	OC269	SS100-24-8615
433	J2	07/15	12-13	C576	V0135	M013158	S122	T1	F2	P1	G013.1	MPG35.8	.	ARD	OC576	SS125-34-7496
447	J2	07/15	12-31	C538	V6080	M094370	S 12	T2	F2	P1	G017.5	MPG17.4	.	IFY	OC538	SS127-28-8202
457	J2	07/15	12-47	C282	V0521	M020930	S 45	T1	F2	P1	G013.7	MPG26.3	.	ARD	UC282	SS113-28-3061
458	J2	07/15	12-49	C125	V8004	M015956	S112	T1	F2	P1	G011.0	MPG32.7	.	ARA	OC125	SS119-26-1165
464	J2	07/15	12-53	C497	V8241	M 17963	S112	T1	F2	P2	G008.0	MPG	.	YFX	OC497	SS122-26-2794
494	J2	07/15	13-28	C509	V3425	M 37236	S 12	T2	F2	P1	G012.0	MPG	.	SJP	OC570	SS108-44-2759
497	J2	07/15	13-31	C201	V8103	M012948	S 20	T1	F2	P1	G010.0	MPG26.2	.	ARD	OC201	SS 65-26-8238
705	J2	07/15	13-41	C538	V6082	M099664	S122	T1	F2	P1	G014.5	MPG77.5	.	SEY	OC494	SS108-28-9887
525	J2	07/15	14-00	C237	V0471	M 45167	S 28	T1	F2	P2	G018.0	MPG	.	GSD	OC237	SS107-30-1466
532	J2	07/15	14-16	C366	V3448	M083530	S 12	T2	F2	P1	G016.9	MPG22.5	.	LHP	OC366	SS 64-38-1723
533	J2	07/15	14-17	C246	V0635	M 10530	S 32	T1	F2	P1	G013.0	MPG	.	ARD	OC246	SS114-30-5114
552	J2	07/15	14-39	C367	V8589	M 80037	S113	T1	F2	P1	G015.0	MPG	.	HHU	OC347	SS109-34-7162
646	J2	07/15	15-52	C104	V1092	M 6020	S104	T1	F2	P1	G011.7	MPG	.	BET	UC104	SS 79-18-2406
651	J2	07/15	15-55	C 22	V2572	M 49116	S 5	T1	F2	P1	G011.8	MPG	.	JRA	OC 22	SS 64-30-2622
697	J2	07/15	16-15	C450	V0839	M057324	S 26	T1	F2	P1	G013.0	MPG46.7	.	ARD	UC450	SS 74-18-8332
707	J2	07/15	16-17	C256	V8527	M 40223	S 20	T1	F2	P1	G017.0	MPG	.	TIO	OC256	SS136-28-9132
709	J2	07/15	16-17	C128	V8141	M 10901	S 11	T1	F2	P1	G013.2	MPG	.	ARD	UC128	SS 76-36-6111
711	J2	07/15	16-18	C311	V0238	M025551	S109	T2	F2	P1	G014.7	MPG17.8	.	JRD	OC577	SS115-40-4845
729	J2	07/15	16-21	C533	V0304	M023318	S105	T1	F2	P1	G010.9	MPG35.7	.	JRD	OC105	SS 51-30-0151
748	J2	07/15	16-25	C 26	V1064	M 99120	S 34	T1	F2	P1	G011.8	MPG	.	ARA	OC139	SS 74-34-9868
751	J2	07/15	16-30	C225	V0464	M 33669	S 5	T1	F2	P1	G017.2	MPG	.	GSD	OC225	SS 59-30-7796
845	J2	07/15	18-39	C126	V8071	M 6071	S109	T1	F2	P1	G018.7	MPG	.	SEY	OC126	SS122-34-1876
348	J2	07/15	18-43	C538	V0012	M030700	S 2	T1	F2	P1	G011.6	MPG29.3	.	ARD	OC538	SS108-22-0920
861	J2	07/15	19-00	C367	V8047	M045178	S 45	T1	F2	P1	G017.0	MPG16.5	.	R3Y	OC372	SS 92-38-9746
891	J2	07/15	19-43	C100	V1456	M026119	S100	T1	F2	P1	G015.8	MPG67.0	.	ARA	OC100	SS 89-44-1947
901	J2	07/15	19-58	C569	V8427	M484644	S 23	T1	F2	P2	G015.9	MPG	.	R1Y	OC387	SS 54-38-2466
903	J2	07/15	20-00	C163	V0627	M006290	S 48	T1	F2	P1	G014.6	MPG17.8	.	ARD	OC163	SS 54-20-4373

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SEQ #	TP	DATE	TIME		OS- PRIVATE VEHICLE FUELING	
40	JS	07/22	00-53	CD158	S112 T1 F2 P2 G005.0	OC108 SS 68-36-1923
45	JS	07/22	01-15	CD158	S112 T1 F2 P2 G005.0	OC108 SS 63-48-0081
47	JS	07/22	01-20	CD156	S109 T2 F2 P1 G013.1	OC246 SS102-36-2527
165	JS	07/22	06-49	CD 76	S 2 T2 F1 P1 G002.9	OC410 SS 66-40-7382
167	JS	07/22	07-31	CD 75	S 50 T1 F2 P2 G010.5	OC 50 SS124-30-7995
194	JS	07/22	07-39	CD172	S 46 T1 F2 P1 G005.0	OC 52 SS117-32-0402
262	JS	07/22	08-42	CD266	S 3 T2 F1 P1 G005.0	OC150 JS 69-30-7779
304	JS	07/22	09-30	CD 74	S 48 T1 F2 P1 G008.0	OC163 SS 79-26-2397
313	JS	07/22	09-39	CD266	S 3 T1 F2 P1 G016.1	UC578 SS115-24-5848
320	JS	07/22	09-43	CD172	S 46 T1 F2 P1 G009.5	OC 46 SS 83-34-7558
344	JS	07/22	09-52	CD 60	S100 T1 F2 P1 G005.0	OC100 SS 62-44-9858
347	JS	07/22	09-54	CD 60	S100 T1 F2 P1 G005.0	UC100 SS114-42-5574
348	JS	07/22	09-56	CD156	S109 T2 F2 P1 G012.0	OC390 SS110-20-6940
381	JS	07/22	10-17	CD 62	S103 T1 F2 P1 G015.0	OC103 SS 53-42-7244
393	JS	07/22	10-25	CD 62	S103 T1 F2 P1 G013.9	UC103 SS 52-34-3958
408	JS	07/22	10-35	CD 70	S 43 T1 F2 P1 G009.5	OC 43 SS 73-34-9654
409	JS	07/22	10-35	CD 64	S111 T1 F2 P2 G008.1	UC111 SS130-14-5735
430	JS	07/22	10-45	CD 2	S 1 T1 F2 P1 G002.0	OC 52 SS122-26-4436
461	JS	07/22	11-25	CD156	S109 T1 F2 P1 G006.2	OC509 SS 92-26-0523
503	JS	07/22	12-26	CD172	S 46 T1 F2 P1 G009.6	UC155 SS 70-36-9781
535	JS	07/22	13-23	CD 74	S 48 T1 F2 P1 G016.5	OC 40 SS 62-30-4937
537	JS	07/22	13-27	CD163	S105 T1 F2 P1 G007.1	UC166 SS257-64-9542
541	JS	07/22	13-31	CD163	S105 T1 F2 P1 G014.0	OC166 SS123-30-4984
544	JS	07/22	13-36	CD 74	S 48 T1 F2 P1 G006.7	OC 44 SS107-34-6002
551	JS	07/22	13-53	CD 70	S 43 T1 F2 P2 G020.0	OC533 SS121-38-0480
564	JS	07/22	14-13	CD158	S112 T1 F2 P1 G007.0	OC150 SS 53-34-7747
573	JS	07/22	14-31	CD251	S120 T1 F2 P1 G010.0	OC186 SS110-30-1721
582	JS	07/22	14-39	CD172	S 46 T1 F2 P1 G008.0	OC 46 SS104-32-6368
588	JS	07/22	14-43	CD 74	S 48 T1 F2 P1 G014.9	OC195 SS102-38-8260
590	JS	07/22	14-47	CD 71	S 45 T1 F2 P1 G008.2	OC 45 SS 94-32-3492
592	JS	07/22	15-35	CD 71	S 45 T1 F2 P1 G005.1	OC 45 SS122-36-7307
510	JS	07/22	15-13	CD 81	S 25 T1 F2 P1 G012.0	OC 44 SS 58-32-6708
611	JS	07/22	15-13	CD172	S 46 T1 F2 P1 G005.0	OC 52 SS 59-30-9593
612	JS	07/22	15-13	CD251	S120 T1 F2 P1 G004.5	OC186 SS 57-30-9897
613	JS	07/22	15-16	CD 70	S 43 T1 F2 P2 G010.0	OC 43 SS 93-14-7652
670	JS	07/22	16-00	CD 71	S 45 T1 F2 P1 G005.0	OC 45 SS 62-34-5048
677	JS	07/22	16-06	CD266	S 3 T2 F1 P1 G013.4	OC125 SS 59-30-8647
684	JS	07/22	16-08	CD 75	S 50 T1 F2 P1 G010.1	OC 52 SS 52-34-1674
686	JS	07/22	16-10	CD266	S 3 T2 F1 P1 G007.2	OC107 SS 92-40-6331
726	JS	07/22	16-51	CD 75	S 50 T1 F2 P1 G005.0	OC 52 SS 82-34-4367
754	JS	07/22	17-22	CD 52	S122 T1 F2 P2 G018.4	UC186 SS131-34-2976
771	JS	07/22	17-34	CD 74	S 48 T1 F2 P1 G010.0	OC282 SS130-32-2467
805	JS	07/22	18-41	CD172	S 46 T1 F2 P1 G005.0	OC 46 SS584-32-2047
813	JS	07/22	18-29	CD251	S120 T1 F2 P1 G011.2	OC185 SS119-40-7950
815	JS	07/22	18-32	CD 57	S110 T1 F2 P1 G010.0	UC113 SS 57-30-2173
822	JS	07/22	18-42	CD266	S 3 T2 F1 P1 G011.4	UC107 SS122-36-2782
826	JS	07/22	18-51	CD251	S120 T1 F2 P1 G020.0	UC186 SS 70-34-8567
930	JS	07/22	18-54	CD 74	S 48 T1 F2 P1 G007.5	OC163 SS 55-32-4390
834	JS	07/22	18-02	CD 75	S 50 T1 F2 P1 G005.1	OC 52 SS121-40-1039
748	JS	07/22	19-22	CD 75	S 50 T1 F2 P1 G007.1	OC288 SS102-32-0760
855	JS	07/22	19-27	CD163	S105 T1 F2 P1 G004.1	UC105 SS125-38-6170
855	JS	07/22	19-27	CD163	S105 T1 F2 P1 G004.1	OC105 SS125-38-6170

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10-01-ENTRY

84	10	07/15	06-40	C410	V9055	S 3 TS F8 P1	1.0	LRE	OC413	SS 87-32-5590
148	10	07/15	08-09	C 45	V2489	S 45 TS F8 P1	1.0	JRA	OC 45	SS 87-30-9413
151	10	07/15	08-09	C 45	V2489	S 45 TS F8 P1	1.0	JRA	OC 45	SS 87-30-9413
321	10	07/15	10-36	C107	V1761	S 3 TS F8 P1	1.0	ARA	OC107	SS 59-26-8182
343	10	07/15	10-34	C 0 V	86	S 34 TS F8 P	1.0	OC	26	SS 86-34-5928
347	10	07/15	10-57	C 0 V	86	S 34 TS F8 P	1.0	OC	34	SS 53-36-2860
410	10	07/15	11-46	C 28	V1453	S 28 TS F8 P1	1.0	ARA	OC 28	SS101-16-7242
473	10	07/15	13-07	C 40	V1971	S 40 TS F8 P1	2.0	ARA	OC 40	SS125-30-4069
543	10	07/15	15-20	C 0 V	74	S 48 TS F8 P	0.0	OC193	SS 84-30-4188	
548	10	07/15	15-23	C 0 V	74	S 48 TS F8 P	1.0	OC195	SS 85-30-4186	
657	10	07/15	15-58	C 22	V2972	S 5 TS F8 P1	2.0	JRA	OC 22	SS 64-30-2622
717	10	07/15	16-19	C 28	V 198	S 28 TS F8 P1	2.0	PR	OC 28	SS118-32-7452
888	10	07/15	19-33	C 30	V1827	S 30 TS F8 P1	1.0	ARA	OC 30	SS 76-36-0794
1113	10	07/16	00-13	C 47	V2492	S 47 TS F8 P1	3.0	JRA	OC 47	SS100-40-2356
1115	10	07/16	00-14	C 47	V2492	S 47 TS F8 P1	3.0	JRA	OC 47	SS100-40-2356
1307	10	07/16	07-19	C411	V2890	S 2 TS F8 P1	1.0	UFB	OC411	SS 96-48-1919
1314	10	07/16	07-30	C120	V1745	S120 TS F8 P1	1.0	ARA	OC120	SS 62-40-1146
1481	10	07/16	09-52	C 23	V2799	S 23 TS F8 P1	1.0	BET	OC 23	SS122-34-3011
1537	10	07/16	10-32	C 48	V2135	S 48 TS F8 P1	2.0	ARA	OC 48	SS 52-40-7526
1544	10	07/16	10-37	C 0 V	266	S 3 TS F8 P	9.0	OC533	SS106-28-1069	
1672	10	07/16	12-38	C384	V8120	S 45 TS F8 P1	4.0	ORD	OC370	SS 94-32-2307
1674	10	07/16	12-38	C384	V8120	S 45 TS F8 P1	4.0	ORD	OC370	SS 94-32-2307
1687	10	07/16	13-12	C490	V1638	S110 TS F8 P1	1.0	ARA	OC156	SS129-34-8333
1748	10	07/16	14-42	C413	V2927	S 3 TS F8 P1	2.0	LRE	OC413	SS 77-44-5093
1762	10	07/16	15-02	C 0 V	64	S111 TS F8 P	1.0	OC111	SS 71-24-8618	
1860	10	07/16	16-42	C 25	V2785	S 25 TS F8 P1	3.0	BET	OC 25	SS111-34-1889
1961	10	07/16	16-42	C 25	V2785	S 25 TS F8 P1	2.0	BET	OC 25	SS111-34-1889
1941	10	07/16	18-05	C 30	V8212	S 30 TS F8 P1	2.0	UFY	OC 30	SS247-74-1394
1955	10	07/16	18-30	C 47	V2382	S 47 TS F8 P1	2.0	ARA	OC 47	SS132-23-1122
1957	10	07/16	18-30	C 47	V2382	S 47 TS F8 P1	2.0	ARA	OC 47	SS132-23-1122
1958	10	07/16	18-31	C 0 V	62	S103 TS F8 P	1.0	OC107	SS 69-34-1895	
2237	10	07/17	07-06	C502	V 2	S122 TS F8 P1	1.0	TEY	OC502	SS 55-07-2612
2280	10	07/17	07-59	C442	V2806	S122 TS F8 P1	1.0	UFB	OC447	SS 86-40-9416
2330	10	07/17	08-23	C450	V5540	S 43 TS F8 P1	2.0	UHV	OC450	SS104-32-8668
2330	10	07/17	08-23	C450	V5540	S 43 TS F8 P1	2.0	UHV	OC450	SS104-32-8668

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SER # TP DATE TIME

20- MASTER CARD FUELING

33	20	07/15	00-42	C413	V9045	S 5 T1 F2 P1	G009.9	LKE OC 22	SS137-30-2234
39	20	07/15	00-56	C100	V1759	S112 T1 F2 P2	G014.5	ARA OC102	SS 85-36-4034
41	20	07/15	01-10	C114	V1921	S100 T1 F2 P1	G013.2	ARA OC104	SS 89-28-4451
53	20	07/15	04-09	C109	V1923	S112 T1 F2 P2	G005.0	ARA UC	SS - - 0
70	20	07/15	06-29	C498	V0369	S113 T1 F2 P1	G010.8	JRD UC498	SS 56-22-9268
102	20	07/15	07-20	C570	V3202	S 12 T1 F2 P1	G015.0	TJN OC570	SS106-54-7434
118	20	07/15	07-47	C999	V9999	S 12 T2 F2 P1	G005.0	ZZZ UC570	SS 90-40-8254
120	20	07/15	07-48	C999	V9999	S 12 T2 F2 P1	G003.4	ZZZ UC570	SS 90-40-8254
128	20	07/15	07-53	C188	V0383	S 5 T1 F2 P1	G003.8	AKO OC 22	SS 89-42-2740
162	20	07/15	08-18	C450	V5523	S122 T1 F2 P1	G015.2	LHV OC447	SS 86-40-9416
176	20	07/15	08-35	C101	V9951	S112 T1 F2 P1	G002.0	WTK OC110	SS102-30-8345
178	20	07/15	08-38	C110	V9170	S112 T1 F2 P1	G001.0	WTK OC110	SS115-38-2658
179	20	07/15	08-40	C110	V1429	S114 T1 F2 P1	G007.4	ARA OC110	SS 98-38-7597
181	20	07/15	08-40	C533	V0496	S 2 T1 F2 P1	G014.5	BEY OC411	SS 54-22-7745
195	20	07/15	08-52	C126	V6071	S105 T1 F2 P2	G013.0	SEY OC126	SS122-20-2088
200	20	07/15	08-57	C410	V9023	S114 T1 F2 P2	G017.2	UEY UC114	SS103-32-9946
205	20	07/15	09-00	C100	V1755	S101 T1 F2 P1	G013.0	ARA OC100	SS122-36-5664
210	20	07/15	09-02	C 23	V2375	S 20 T1 F2 P1	G014.0	ARA UC 23	SS 95-28-3661
213	20	07/15	09-06	C153	V1280	S 43 T1 F2 P2	G018.2	HRT OC	SS - - 0
215	20	07/15	09-07	C352	V3146	S 28 T1 F2 P1	G014.1	LJV OC 28	SS101-16-7242
240	20	07/15	09-24	C219	V0138	S113 T2 F2 P1	G016.0	HRT OC216	SS121-22-4491
271	20	07/15	09-58	C 23	V2602	S 23 T1 F2 P2	G007.9	JRA OC 23	SS 75-54-1242
284	20	07/15	10-12	C227	V8572	S 43 T1 F2 P2	G018.0	SFO OC228	SS102-40-6454
298	20	07/15	10-21	C 20	V1196	S 20 T1 F2 P1	G011.7	JRA OC 20	SS 78-32-4625
309	20	07/15	10-31	C100	V1522	S101 T1 F2 P1	G013.5	JRA OC109	SS 68-42-9563
312	20	07/15	10-32	C153	V2510	S 28 T1 F2 P1	G019.6	HRT UC 28	SS101-16-7242
318	20	07/15	10-34	C 75	V2069	S104 T1 F2 P1	G009.0	ARA OC104	SS 62-34-6961
330	20	07/15	10-49	C 24	V1730	S 24 T2 F2 P1	G012.0	JRA OC 24	SS 51-30-0091
340	20	07/15	10-53	C 24	V0846	S 24 T2 F2 P1	G016.7	HRT UC 24	SS 69-40-4435
360	20	07/15	11-04	C367	V8660	S113 T2 F2 P1	G014.0	AID OC367	SS104-30-1763
361	20	07/15	11-05	C319	V8180	S110 T1 F2 P1	G005.7	OMY UC110	SS118-32-5530
364	20	07/15	11-07	C568	V5115	S 1 T1 F2 P1	G000.6	MFF OC999	SS999-99-9999
367	20	07/15	11-08	C168	V1356	S 5 T1 F2 P1	G015.2	BLT OC168	SS 61-48-8645
371	20	07/15	11-10	C 75	V9367	S104 T1 F2 P1	G001.3	WTK OC104	SS 72-16-7054
373	20	07/15	11-13	C153	V2567	S 34 T1 F2 P1	G017.6	HRT OC 34	SS 90-34-6085
392	20	07/15	11-31	C153	V1970	S 34 T1 F2 P1	G020.4	IRT OC 34	SS 90-34-6085
394	20	07/15	11-35	C227	V0350	S 43 T1 F2 P2	G015.2	AID OC374	SS131-34-7365
415	20	07/15	11-50	C319	V0295	S110 T1 F2 P1	G006.1	BEY OC110	SS133-26-2166
420	20	07/15	11-55	C999	V9999	S 30 T1 F2 P2	G005.0	ZZZ UC 30	SS 52-36-9559
421	20	07/15	11-57	C999	V9999	S 30 T1 F2 P2	G005.0	ZZZ UC 30	SS 52-36-9559
435	20	07/15	12-16	C363	V0812	S 20 T1 F2 P1	G016.2	QRY OC231	SS 76-36-0150
438	20	07/15	12-18	C999	V9999	S 12 T2 F2 P1	G005.0	ZZZ UC570	SS122-48-0200
448	20	07/15	12-35	C 44	V0516	S 47 T1 F2 P1	G018.0	GSU UC155	SS 70-36-9981
455	20	07/15	12-43	C600	V8374	S 3 T1 F2 P1	G009.4	AID OC497	SS 70-24-1273
460	20	07/15	12-54	C 19	V1488	S 20 T1 F2 P1	G014.0	ARA OC 19	SS 54-22-3331
483	20	07/15	13-16	C999	V9999	S 12 T2 F2 P1	G005.0	ZZZ UC201	SS105-34-4831
485	20	07/15	13-19	C999	V9999	S 12 T2 F2 P1	G004.7	ZZZ UC201	SS105-34-4831
506	20	07/15	13-42	C538	V8484	S113 T2 F2 P1	G017.0	GPD UC367	SS112-38-7180
518	20	07/15	13-50	C 28	V1925	S 28 T1 F2 P2	G014.4	BEF OC 28	SS103-34-3596
536	20	07/15	14-19	C110	V2247	S110 T1 F2 P1	G011.0	JKA UC110	SS134-38-0075
555	20	07/15	14-40	C126	V0250	S 34 T1 F2 P1	G012.0	AKO OC126	SS 91-30-4057
557	20	07/15	14-42	C367	V8308	S113 T1 F2 P1	G021.4	KEY OC347	SS109-34-7162
559	20	07/15	14-43	C413	V8956	S 3 T2 F2 P1	G003.2	XWJ OC413	SS 95-44-4470
571	20	07/15	14-55	C411	V8941	S 2 T2 F1 P1	G005.0	XWJ UC411	SS 50-36-0845

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SEQ # TP DATE TIME

27- INVENTORY READING

4739	27	07/20	12-15	484.0	MC	1	S123	T1	F2	P1
4800	27	07/20	13-30	2160.0	MC	1	S122	T1	F2	P1
5391	27	07/21	07-36	3000.0	MC	79	S-23	T1	F2	P2
5394	27	07/21	07-36	3000.0	MC	79	S-23	T1	F2	P2

TOTAL TRANSACTIONS THIS REPORT	7	GALLONS ISSUED	.0	GALLONS RECEIVED	.0

REPORT COMPLETE

JYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-14 07/24/11
 SEQ # TP DATE TIME 30 - MANUAL FUEL ENTRY

6142	30	07/20	18-00	C123	V2252	M	6760	S123	T1	F2	P1	G007.6	.	JRA	OC	SS	-	-	0
6146	30	07/20	18-00	C533	V8424	M	56968	S123	T1	F2	P1	G014.0	.	RIY	OC	SS	-	-	0
6147	30	07/20	18-00	C120	V2064	M	2957	S120	T1	F2	P1	G018.0	.	BET	OC120	SS108-22-7457	-	-	0
6151	30	07/20	18-00	C120	V1910	M	18102	S120	T1	F2	P1	G014.0	.	ARA	OC120	SS 63-36-6560	-	-	0
6151	30	07/20	18-00	C120	V2019	M	41334	S120	T1	F2	P1	G018.0	.	JRA	OC	SS	-	-	0
6157	30	07/20	18-00	C120	V1745	M	43045	S120	T1	F2	P1	G012.0	.	ARA	OC	SS	-	-	0
6157	30	07/20	18-00	C120	V1322	M	12319	S120	T1	F2	P1	G014.7	.	ARA	OC	SS	-	-	0
6160	30	07/20	18-00	C120	V1871	M	479	S120	T1	F2	P1	G011.9	.	BET	OC	SS	-	-	0
6163	30	07/20	18-00	C120	V2479	M	27572	S120	T1	F2	P1	G013.5	.	ARA	OC	SS	-	-	0
6165	30	07/20	18-00	C120	V2244	M	27317	S120	T1	F2	P1	G015.7	.	JRA	OC	SS	-	-	0
6167	30	07/20	18-00	C120	V2506	M	51821	S120	T1	F2	P1	G018.0	.	JRA	OC120	SS 8-70-4200	-	-	0
6166	30	07/20	18-00	C120	V2353	M	12026	S120	T1	F2	P1	G010.0	.	ARA	OC	SS	-	-	6
6170	30	07/20	18-00	C450	V5923	M	3275	S120	T1	F2	P1	G011.0	.	LHV	OC	SS	-	-	440
6174	30	07/20	18-00	C120	V1389	M	29639	S120	T1	F2	P1	G014.9	.	JRA	OC	SS	-	-	0

TOTAL TRANSACTIONS THIS REPORT 14 GALLONS ISSUED 193.3 GALLONS RECEIVED 0

REPORT COMPLETE

NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-17 07/24/61 PAGL 3

SEQ # TP DATE TIME

31 - MANUAL FILE RECEIPT

272	31	07/15	09-58	G	395.0	23	1	2	1
296	31	07/15	10-19	G	1123.0	23	1	2	1
1051	31	07/15	23-01	G	1550.0	23	1	2	1
1290	31	07/16	07-05	G	434.0	23	1	2	1
1299	31	07/16	07-14	G	780.0	23	2	2	1
1417	31	07/16	08-55	G	206.0	23	1	2	1
1418	31	07/16	08-56	G	324.0	23	2	2	1
1680	31	07/16	13-12	G	1459.0	23	1	2	1
1747	31	07/16	13-22	G	718.0	23	1	2	1
2225	31	07/17	06-49	G	479.0	23	2	1	1
2318	31	07/17	08-21	G	458.0	23	1	2	1
2341	31	07/17	08-33	G	500.0	23	1	2	1
2512	31	07/17	10-49	G	240.0	23	1	2	1
2546	31	07/17	11-19	G	403.0	23	1	2	1
2685	31	07/17	14-21	G	226.0	23	2	1	1
2690	31	07/17	14-26	G	1000.0	23	1	2	1
2688	31	07/17	18-03	G	760.0	23	1	2	1
2787	31	07/17	20-25	G	1064.0	23	1	2	1
3597	31	07/18	12-57	G	932.0	23	1	2	1
4460	31	07/20	06-35	G	1137.0	23	1	2	1
4546	31	07/20	08-31	G	569.0	23	1	2	1
4635	31	07/20	09-52	G	430.0	23	2	2	1
4657	31	07/20	10-15	G	989.0	23	1	2	1
4765	31	07/20	12-43	G	270.0	23	1	2	1
4781	31	07/20	13-10	G	1426.0	23	1	2	1
5897	31	07/21	09-40	G	641.0	23	1	2	1
5914	31	07/21	09-50	G	500.0	23	1	2	1
6119	31	07/21	13-50	G	529.0	23	1	2	1
6121	31	07/21	13-51	G	541.0	23	2	2	1
6123	31	07/21	13-55	G	500.0	23	1	2	1
6127	31	07/21	13-57	G	1400.0	23	1	2	1
6128	31	07/21	13-58	G	739.0	23	1	2	1

TOTAL TRANSACTIONS THIS REPORT 32 GALLONS ISSUED 0 GALLONS RECEIVED 22722.0

REPORT COMPLETE

NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-18 07/24/61 PAGE 4

SEQ # TP DATE TIME

41 - ACQUIRE VEHICLE

1069	41	07/15	23-46	C570 V	13 M	1 F2--U	CD3984	MLIM250 GLIM69	ARD
1077	41	07/15	23-51	C570 V	13 M	1 F2--U	CD3969	MLIM250 GLIM77	ARD
1091	41	07/16	00-04	C-52 V1612	M	1 F2--U	CD2562	MLIM250 GLIM91	BET
1093	41	07/16	00-05	C114 V1243	M	1 F2--U	CD 892	MLIM250 GLIM93	ARD
1097	41	07/16	00-05	C242 V8732	M	1 F2--U	CD3994	MLIM250 GLIM97	BIY
1098	41	07/16	00-06	C242 V8755	M	1 F2--U	CD3989	MLIM250 GLIM98	YRD
1100	41	07/16	00-06	C201 V8733	M	1 F2--U	CD3995	MLIM250 GLIM00	BIY
1101	41	07/16	00-07	C341 V8736	M	1 F2--U	CD3996	MLIM250 GLIM01	YFX
1102	41	07/16	00-07	C215 V8738	M	1 F2--U	CD3997	MLIM250 GLIM02	YFX
1103	41	07/16	00-08	C215 V8759	M	1 F2--J	CD3991	MLIM250 GLIM03	YKL
1107	41	07/16	00-09	C568 V5110	M	1 F2--U	CD2749	MLIM250 GLIM07	YFF
1154	41	07/16	00-55	C570 V	13 M	1 F2--U	CD 892	MLIM250 GLIM55	ARD
1157	41	07/16	00-56	C570 V	13 M	1 F2--U	CD2749	MLIM250 GLIM57	ARD
1159	41	07/16	00-56	C570 V	13 M	1 F2--U	CD2210	MLIM250 GLIM59	ARD
1161	41	07/16	00-56	C570 V	13 M	1 F2--U	CD3997	MLIM250 GLIM61	ARD
1163	41	07/16	00-57	C570 V	13 M	1 F2--U	CD2748	MLIM250 GLIM63	ARD
1165	41	07/16	00-57	C570 V	13 M	1 F2--U	CD3985	MLIM250 GLIM65	ARD
1167	41	07/16	00-57	C570 V	13 M	1 F2--U	CD3998	MLIM250 GLIM67	ARD
1169	41	07/16	00-58	C570 V	13 M	1 F2--U	CD2747	MLIM250 GLIM69	ARD
1172	41	07/16	00-58	C570 V	13 M	1 F2--U	CD3986	MLIM250 GLIM72	ARD
1174	41	07/16	00-59	C570 V	13 M	1 F2--U	CD4000	MLIM250 GLIM74	ARD
1201	41	07/16	01-39	C570 V	13 M	1 F2--U	CD2482	MLIM250 GLIM01	ARD
1204	41	07/16	01-39	C570 V	13 M	1 F2--U	CD2753	MLIM250 GLIM04	ARD
1206	41	07/16	01-39	C570 V	13 M	1 F2--U	CD3151	MLIM250 GLIM06	ARD
1208	41	07/16	01-40	C570 V	13 M	1 F2--U	CD2830	MLIM250 GLIM08	ARD
1227	41	07/16	02-26	C570 V	13 M	1 F2--U	CD 286	MLIM250 GLIM27	ARD
1229	41	07/16	02-26	C570 V	13 M	1 F2--U	CD 629	MLIM250 GLIM29	ARD
1231	41	07/16	02-27	C570 V	13 M	1 F2--U	CD3579	MLIM250 GLIM31	ARD
1233	41	07/16	02-27	C570 V	13 M	1 F2--U	CD3967	MLIM250 GLIM33	ARD
1235	41	07/16	02-28	C570 V	13 M	1 F2--U	CD 308	MLIM250 GLIM35	ARD
2108	41	07/17	00-00	C570 V	13 M	1 F2--U	CD 668	MLIM250 GLIM08	ARD
2117	41	07/17	00-02	C120 V1871	M	1 F2--U	CD1413	MLIM250 GLIM17	BET
2118	41	07/17	00-02	C157 V1540	M	1 F2--U	CD1410	MLIM250 GLIM18	BET
2120	41	07/17	00-03	C158 V1295	M	1 F2--U	CD 916	MLIM250 GLIM20	BET
2121	41	07/17	00-03	C 74 V1854	M	1 F2--U	CD1412	MLIM250 GLIM21	BET
2122	41	07/17	00-03	C366 V3456	M	1 F2--U	CD2794	MLIM250 GLIM22	LMU
2123	41	07/17	00-04	C 24 V1823	M	1 F2--U	CD1411	MLIM250 GLIM23	BET
2124	41	07/17	00-04	C159 V1889	M	1 F2--J	CD1414	MLIM250 GLIM24	BET
2133	41	07/17	00-36	C570 V	13 M	1 F2--U	CD2476	MLIM250 GLIM53	ARD
2155	41	07/17	00-36	C570 V	13 M	1 F2--U	CD3826	MLIM250 GLIM55	ARD
3082	41	07/17	23-27	C114 V1414	M	1 F2--U	CD1000	MLIM250 GLIM62	BET
3085	41	07/17	23-28	C 67 V9355	M	1 F2--U	CD4305	MLIM250 GLIM85	WTK
3093	41	07/17	23-42	C570 V	13 M	1 F2--U	CD1329	MLIM250 GLIM93	ARD
3100	41	07/17	23-53	C570 V	13 M	1 F2--U	CD3831	MLIM250 GLIM06	ARD
3108	41	07/17	23-54	C570 V	13 M	1 F2--U	CD 760	MLIM250 GLIM08	ARD
3151	41	07/18	01-14	C 1 V9198	M	1 F2--U	CD4004	MLIM250 GLIM51	WTK
3249	41	07/20	23-46	C-40 V1474	M	1 F2--U	CD 996	MLIM250 GLIM48	BET
3250	41	07/20	23-47	C 44 V1786	M	1 F2--U	CD 982	MLIM250 GLIM50	BET
3251	41	07/20	23-47	C 90 V1859	M	1 F2--U	CD 993	MLIM250 GLIM51	BET
3253	41	07/20	23-47	C 14 V4308	M	1 F2--U	CD2746	MLIM250 GLIM53	BHH
3254	41	07/20	23-48	C-66 V1820	M	1 F2--U	CD 992	MLIM250 GLIM54	BET
3255	41	07/20	23-48	C 83 V1378	M	1 F2--U	CD2755	MLIM250 GLIM55	BET
3256	41	07/20	23-49	C 63 V1883	M	1 F2--U	CD2758	MLIM250 GLIM56	BET
3257	41	07/20	23-49	C 94 V1960	M	1 F2--U	CD2768	MLIM250 GLIM57	BET

NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-21 07/24/61 PAGE 1

SEQ # TP DATE TIME

43- PUT VEHICLE ONLINE

77	43	07/15	06-30	V1914	CD 1387	EQP ON-LINE
481	43	07/15	13-14	V5505	CD 2751	EQP ON-LINE
482	43	07/15	13-16	V5529	CD 2752	EQP ON-LINE
530	43	07/15	14-09	V3879	CD 2797	EQP ON-LINE
585	43	07/15	15-09	V9376	CD 4294	EQP ON-LINE
737	43	07/15	17-29	V8303	CD 3634	EQP ON-LINE
890	43	07/15	19-36	V 570	CD 2742	EQP ON-LINE
1190	43	07/16	01-18	V5110	CD 2830	EQP ON-LINE
1225	43	07/16	02-25	V8420	CD 3105	EQP ON-LINE
1304	43	07/16	07-19	V1488	CD 1890	EQP ON-LINE
1310	43	07/16	07-22	V2035	CD 1364	EQP ON-LINE
1311	43	07/16	07-23	V9350	CD 4300	EQP ON-LINE
1437	43	07/16	09-13	V2450	CD 1615	EQP ON-LINE
1441	43	07/16	09-15	V8238	CD 3528	EQP ON-LINE
1450	43	07/16	09-28	V9375	CD 4289	EQP ON-LINE
1621	43	07/16	11-51	V2981	CD 2773	EQP ON-LINE
1662	43	07/16	12-41	V1461	CD 1024	EQP ON-LINE
1677	43	07/16	13-27	V 536	CD 2743	EQP ON-LINE
1772	43	07/16	15-15	V2061	CD 1369	EQP ON-LINE
2377	43	07/17	08-54	V 269	CD 652	EQP ON-LINE
2485	43	07/17	10-25	V8703	CD 2779	EQP ON-LINE
2511	43	07/17	12-26	V9042	CD 3969	EQP ON-LINE
2850	43	07/17	17-22	V1612	CD 2562	EQP ON-LINE
4256	43	07/20	08-40	V 245	CD 656	EQP ON-LINE
4609	43	07/20	09-25	V1329	CD 4	EQP ON-LINE
4611	43	07/20	09-25	V1405	CD 5 0	EQP ON-LINE
4677	43	07/20	10-36	V8150	CD 3642	EQP ON-LINE
4755	43	07/20	12-30	V9352	CD 4301	EQP ON-LINE
4756	43	07/20	12-30	V9354	CD 4302	EQP ON-LINE
5889	43	07/21	07-35	V1414	CD 1000	EQP ON-LINE
5890	43	07/21	09-35	V2003	CD 1390	EQP ON-LINE
5985	43	07/21	11-33	V8567	CD 3737	EQP ON-LINE
6089	43	07/21	13-13	V8759	CD 3991	EQP ON-LINE
6092	43	07/21	13-13	V8738	CD 2786	EQP ON-LINE

TOTAL TRANSACTIONS THIS REPORT 34 GALLONS ISSUED 0 GALLONS RECEIVED 0

REPORT COMPLETE

NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-22 07/24/61 PAGE 2

SEQ # TP DATE TIME

44- PUT VEHICLE OFFLINE

261	44	07/15	10-06	V1488	CD 1890	EOP OFF-LINE
1147	44	07/16	00-49	V1612	CD 2562	EOP OFF-LINE
1148	44	07/16	00-49	V8759	CD 3491	EOP OFF-LINE
1149	44	07/16	00-52	V1243	CD 893	EOP OFF-LINE
1150	44	07/16	00-52	V5110	CD 2482	EOP OFF-LINE
1151	44	07/16	00-53	V8703	CD 2779	EOP OFF-LINE
1153	44	07/16	00-53	V8738	CD 2786	EOP OFF-LINE
1220	44	07/16	02-03	V8383	CD 3637	EOP OFF-LINE
1221	44	07/16	02-05	V 245	CD 656	EOP OFF-LINE
1222	44	07/16	02-06	V9042	CD 3969	EOP OFF-LINE
1223	44	07/16	02-06	V 269	CD 652	EOP OFF-LINE
1280	44	07/16	10-59	V1873	CD 1275	EOP OFF-LINE
2104	44	07/16	23-54	V3197	CD 2021	EOP OFF-LINE
2110	44	07/17	00-00	V2025	CD 1344	EOP OFF-LINE
2115	44	07/17	00-01	V6620	CD 3381	EOP OFF-LINE
2136	44	07/17	00-16	V1823	CD 1411	EOP OFF-LINE
2137	44	07/17	00-16	V1871	CD 1413	EOP OFF-LINE
2138	44	07/17	00-17	V3456	CD 2794	EOP OFF-LINE
2157	44	07/17	00-37	V8150	CD 3642	EOP OFF-LINE
2158	44	07/17	00-37	V8567	CD 3737	EOP OFF-LINE
3091	44	07/17	23-41	V2003	CD 1390	EOP OFF-LINE
3092	44	07/17	23-41	V1414	CD 1000	EOP OFF-LINE
3104	44	07/17	23-52	V1079	CD 763	EOP OFF-LINE
3105	44	07/17	23-52	V8572	CD 3842	EOP OFF-LINE
5228	44	07/20	23-39	V8404	CD 3684	EOP OFF-LINE
5229	44	07/20	23-39	V5528	CD 3290	EOP OFF-LINE
5230	44	07/20	23-39	V2016	CD 1338	EOP OFF-LINE
5232	44	07/20	23-40	V 286	CD 323	EOP OFF-LINE
5234	44	07/20	23-41	V1293	CD 917	EOP OFF-LINE
5235	44	07/20	23-41	V1495	CD 1051	EOP OFF-LINE
5236	44	07/20	23-41	V6799	CD 3383	EOP OFF-LINE
5238	44	07/20	23-42	V8015	CD 3464	EOP OFF-LINE
5239	44	07/20	23-42	V8024	CD 3468	EOP OFF-LINE
5240	44	07/20	23-42	V8301	CD 3601	EOP OFF-LINE
5241	44	07/20	23-42	V8369	CD 3655	EOP OFF-LINE
5242	44	07/20	23-43	V9867	CD 4350	EOP OFF-LINE
5243	44	07/20	23-43	V9820	CD 4314	EOP OFF-LINE

TOTAL TRANSACTIONS THIS REPORT 37 GALLONS ISSUED .0 GALLONS RECEIVED .0

REPORT COMPLETE

NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 14-24 07/24/61 PAGE 3

SEQ # TP DATE TIME

45- CHANGE FIELD VEHICLE FILE

1095	45	07/16	00-05	V1468	8	075	CH FLD-EQP FILE
1104	45	07/16	00-08	V8703	8	544	CH FLD-EQP FILE
1105	45	07/16	00-08	V8491	8	153	CH FLD-EQP FILE
1302	45	07/16	07-15	V1214	8	114	CH FLD-EQP FILE
2110	45	07/17	00-02	V 189	8	551	CH FLD-EQP FILE
3083	45	07/17	23-27	V2003	8	114	CH FLD-EQP FILE
3084	45	07/17	23-28	V1244	8	075	CH FLD-EQP FILE
3086	45	07/17	23-29	V8627	8	112	CH FLD-EQP FILE
3141	45	07/18	01-10	V1362	8	006	CH FLD-EQP FILE
3143	45	07/18	01-10	V9112	8	153	CH FLD-EQP FILE
3144	45	07/18	01-11	V9419	8	153	CH FLD-EQP FILE
3145	45	07/18	01-11	V9613	8	153	CH FLD-EQP FILE
3146	45	07/18	01-11	V9896	8	153	CH FLD-EQP FILE
3147	45	07/18	01-11	V9897	8	153	CH FLD-EQP FILE
3150	45	07/18	01-13	V9898	8	153	CH FLD-EQP FILE
3152	45	07/18	01-17	V9384	8	153	CH FLD-EQP FILE
3153	45	07/18	01-17	V9637	8	153	CH FLD-EQP FILE
3155	45	07/18	01-18	V9947	8	010	CH FLD-EQP FILE
3156	45	07/18	01-18	V9947	0	10	CH FLD-EQP FILE
3157	45	07/18	01-19	V9947	0	02	CH FLD-EQP FILE
3158	45	07/18	01-19	V1950	0	23	CH FLD-EQP FILE
3159	45	07/18	01-19	V9945	0	02	CH FLD-EQP FILE
3160	45	07/18	01-21	V9473	8	153	CH FLD-EQP FILE
3161	45	07/18	01-21	V9615	8	153	CH FLD-EQP FILE

TOTAL TRANSACTIONS THIS REPORT 24 GALLONS ISSUED 0 GALLONS RECEIVED 0

REPORT COMPLETE

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GROUP TRANSACTION FILES - BY TRANSAC. TYPE - 09-03 03/12/81 PAGE 1
REF # TP DATE TIM 46- CHANCE ODOMETER READING
DATE 88-08/07 03-88 V 41-M-000001 ULD 141 CH 000M F00
TOTAL TRANSACTIONS THIS REPORT 1 GALLONS ISSUED .0 GALLONS RECEIVED .0
REPORT COMPLETE

TR 6567-11

NYCPD TRANSACTION FILES BY TRANSAC. TYPE - 14-42 07/24/61 PAGE 1

SEQ # TP DATE TIME

47 - NEW CARD NUMBER VEHICLE

277	47	07/15	10-01	V1488	OLD 2146	NEW 1390	NEW CDR-EJP
1068	47	07/15	23-42	V875J	OLD 3984	NEW 3990	NEW CDR-EJP
1075	47	07/15	23-51	V8748	OLD 3969	NEW 3994	NEW CDR-EJP
1123	47	07/16	00-24	V1243	OLD 892	NEW 893	NEW CDR-EJP
1124	47	07/16	00-25	V5110	OLD 2749	NEW 2748	NEW CDR-EJP
1125	47	07/16	00-25	V8703	OLD 2210	NEW 3985	NEW CDR-EJP
1126	47	07/16	00-26	V8738	OLD 3997	NEW 3998	NEW CDR-EJP
1130	47	07/16	00-32	V5110	OLD 2748	NEW 2747	NEW CDR-EJP
1131	47	07/16	00-33	V8703	OLD 3985	NEW 3986	NEW CDR-EJP
1132	47	07/16	00-34	V8738	OLD 3998	NEW 4000	NEW CDR-EJP
1133	47	07/16	00-40	V5110	OLD 2747	NEW 2482	NEW CDR-EJP
1134	47	07/16	00-41	V8703	OLD 3986	NEW 2779	NEW CDR-EJP
1135	47	07/16	00-41	V8738	OLD 4000	NEW 2786	NEW CDR-EJP
1183	47	07/16	01-18	V5110	OLD 2482	NEW 2830	NEW CDR-EJP
1185	47	07/16	01-28	V5110	OLD 2830	NEW 3151	NEW CDR-EJP
1197	47	07/16	01-32	V5110	OLD 3151	NEW 2753	NEW CDR-EJP
1198	47	07/16	01-34	V5110	OLD 2753	NEW 1887	NEW CDR-EJP
1211	47	07/16	01-52	V9042	OLD 3967	NEW 3969	NEW CDR-EJP
1212	47	07/16	01-53	V8383	OLD 3579	NEW 3637	NEW CDR-EJP
1213	47	07/16	01-54	V 245	OLD 286	NEW 652	NEW CDR-EJP
1214	47	07/16	01-54	V 245	OLD 286	NEW 629	NEW CDR-EJP
1215	47	07/16	01-58	V 245	OLD 629	NEW 656	NEW CDR-EJP
2147	47	07/17	00-32	V8150	OLD 2476	NEW 3642	NEW CDR-EJP
2149	47	07/17	00-32	V8567	OLD 3826	NEW 3737	NEW CDR-EJP
3089	47	07/17	23-35	V2003	OLD 1329	NEW 1390	NEW CDR-EJP
3093	47	07/17	23-47	V1079	OLD 760	NEW 763	NEW CDR-EJP
3099	47	07/17	23-47	V8572	OLD 3831	NEW 3842	NEW CDR-EJP
5264	47	07/20	23-58	V4308	OLD 2746	NEW 1471	NEW CDR-EJP
5268	47	07/21	00-00	V4308	OLD 1471	NEW 1466	NEW CDR-EJP
5318	47	07/21	01-13	V1689	OLD 1170	NEW 778	NEW CDR-EJP
5319	47	07/21	01-13	V2477	OLD 2274	NEW 1627	NEW CDR-EJP
5320	47	07/21	01-13	V3751	OLD 3033	NEW 2796	NEW CDR-EJP
5321	47	07/21	01-14	V9117	OLD 4027	NEW 4424	NEW CDR-EJP
5323	47	07/21	01-14	V9118	OLD 4028	NEW 4425	NEW CDR-EJP
5324	47	07/21	01-14	V9120	OLD 4033	NEW 4426	NEW CDR-EJP
5325	47	07/21	01-15	V9195	OLD 4009	NEW 4427	NEW CDR-EJP
5326	47	07/21	01-15	V9196	OLD 4010	NEW 4428	NEW CDR-EJP
5327	47	07/21	01-15	V9197	OLD 4011	NEW 4429	NEW CDR-EJP
5328	47	07/21	01-15	V9199	OLD 4012	NEW 4431	NEW CDR-EJP
5337	47	07/21	01-21	V9118	OLD 4425	NEW 4432	NEW CDR-EJP
5338	47	07/21	01-21	V9197	OLD 4429	NEW 4433	NEW CDR-EJP
5341	47	07/21	01-23	V9197	OLD 4433	NEW 4434	NEW CDR-EJP
5342	47	07/21	01-25	V9197	OLD 4434	NEW 4436	NEW CDR-EJP
5343	47	07/21	01-26	V9197	OLD 4436	NEW 4437	NEW CDR-EJP
5344	47	07/21	01-27	V9197	OLD 4437	NEW 4438	NEW CDR-EJP
5348	47	07/21	01-35	V2236	OLD 1469	NEW 1463	NEW CDR-EJP
5349	47	07/21	01-35	V2557	OLD 1690	NEW 1686	NEW CDR-EJP
5350	47	07/21	01-35	V3807	OLD 3054	NEW 2810	NEW CDR-EJP
5351	47	07/21	01-36	V1559	OLD 2516	NEW 2847	NEW CDR-EJP
5352	47	07/21	01-36	V 608	OLD 2579	NEW 2860	NEW CDR-EJP
5354	47	07/21	01-44	V1116	OLD 791	NEW 804	NEW CDR-EJP
5360	47	07/21	01-45	V2072	OLD 2153	NEW 1420	NEW CDR-EJP
5361	47	07/21	01-45	V2282	OLD 2589	NEW 1462	NEW CDR-EJP
5362	47	07/21	01-45	V3815	OLD 3056	NEW 2890	NEW CDR-EJP

TRANSACTION FILES BY TRANSAC. TYPE 16-45 07/26/61 PAGE 1

SEQ # TP DATE TIME

49- DELETE VEHICLE

1070	49	07/15	11-00	V 715	CD 3302	DELETE VEH
1070	49	07/15	23-46	V 715	CD 3984	DELETE VEH
1078	49	07/15	23-51	V 715	CD 3969	DELETE VEH
1156	49	07/16	00-55	V 716	CD 892	DELETE VEH
1158	49	07/16	00-56	V 716	CD 2749	DELETE VEH
1160	49	07/16	00-56	V 716	CD 2210	DELETE VEH
1162	49	07/16	00-56	V 716	CD 3997	DELETE VEH
1164	49	07/16	00-57	V 716	CD 2748	DELETE VEH
1166	49	07/16	00-57	V 716	CD 3985	DELETE VEH
1163	49	07/16	00-58	V 716	CD 3998	DELETE VEH
1170	49	07/16	00-58	V 716	CD 2747	DELETE VEH
1173	49	07/16	00-58	V 716	CD 3986	DELETE VEH
1175	49	07/16	00-59	V 716	CD 4000	DELETE VEH
1202	49	07/16	01-39	V 716	CD 2582	DELETE VEH
1205	49	07/16	01-39	V 716	CD 2753	DELETE VEH
1207	49	07/16	01-40	V 716	CD 3151	DELETE VEH
1209	49	07/16	01-40	V 716	CD 2830	DELETE VEH
1226	49	07/16	02-25	V 716	CD 3705	DELETE VEH
1228	49	07/16	02-26	V 716	CD 286	DELETE VEH
1230	49	07/16	02-27	V 716	CD 629	DELETE VEH
1232	49	07/16	02-27	V 716	CD 3579	DELETE VEH
1234	49	07/16	02-28	V 716	CD 3967	DELETE VEH
1236	49	07/16	02-28	V 716	CD 308	DELETE VEH
1303	49	07/16	07-15	V 716	CD 893	DELETE VEH
1318	49	07/16	13-01	V 716	CD 3419	DELETE VEH
1405	49	07/16	00-00	V 717	CD 668	DELETE VEH
1409	49	07/17	00-00	V 717	CD 668	DELETE VEH
1411	49	07/17	00-00	V 717	CD 332	DELETE VEH
1413	49	07/17	00-01	V 717	CD 1842	DELETE VEH
1414	49	07/17	00-01	V 717	CD 3400	DELETE VEH
1454	49	07/17	00-36	V 717	CD 2476	DELETE VEH
1456	49	07/17	00-36	V 717	CD 3826	DELETE VEH
1494	49	07/17	23-42	V 717	CD 1329	DELETE VEH
1507	49	07/17	23-53	V 717	CD 3831	DELETE VEH
1509	49	07/17	23-54	V 717	CD 760	DELETE VEH
1531	49	07/20	23-40	V 720	CD 240	DELETE VEH
1533	49	07/20	23-40	V 720	CD 478	DELETE VEH
1546	49	07/20	23-45	V 720	CD 3024	DELETE VEH
1547	49	07/20	23-46	V 720	CD 4078	DELETE VEH
1566	49	07/20	23-58	V 720	CD 2746	DELETE VEH
1571	49	07/21	00-31	V 721	CD 1471	DELETE VEH
1578	49	07/21	00-38	V 721	CD 2021	DELETE VEH
1579	49	07/21	00-38	V 721	CD 1344	DELETE VEH
1580	49	07/21	00-38	V 721	CD 1804	DELETE VEH
1581	49	07/21	00-39	V 721	CD 3290	DELETE VEH
1583	49	07/21	00-39	V 721	CD 323	DELETE VEH
1584	49	07/21	00-39	V 721	CD 3383	DELETE VEH
1585	49	07/21	00-39	V 721	CD 151	DELETE VEH
1586	49	07/21	00-39	V 721	CD 1805	DELETE VEH
1589	49	07/21	03-26	V 721	CD 869	DELETE VEH
1590	49	07/21	03-57	V 721	CD 725	DELETE VEH
1591	49	07/21	03-57	V 721	CD 1305	DELETE VEH
1595	49	07/21	03-54	V 721	CD 1347	DELETE VEH
1597	49	07/21	03-55	V 721	CD 3725	DELETE VEH

MYLPI	TRANSACTION FILES	- BY TRANSAC. TYPE -	11-40	07/27/61	PAGE 1
SEQ	IP	DATE	TIME	53- Pmt Pump, Tank, Terminal, Line, Master Card ON LINE	
437	53	07/15	12-18	T45 LN5	TERM UN-LINE
443	53	07/15	13-58	PVE151	PVE UN-LINE
528	53	07/15	14-04	PVF251	PVF UN-LINE
595	53	07/15	15-21	S 48 T1	TANK, PUMPS ON
597	53	07/15	15-22		TERM UN-LINE
1021	53	07/15	22-06	T15 LN2	TERM UN-LINE
1031	53	07/15	22-11	T37 LN4	TERM UN-LINE
1057	53	07/15	23-09	T37 LN4	TERM UN-LINE
1704	53	07/16	13-37	T24 LN3	TERM UN-LINE
1711	53	07/16	13-42	T24 LN3	TERM UN-LINE
1762	53	07/16	18-33	T48 LN5	TERM UN-LINE
2208	53	07/17	06-19	T37 LN4	TERM UN-LINE
2214	53	07/17	06-33	T48 LN5	TERM UN-LINE
2228	53	07/17	06-48	T48 LN5	TERM UN-LINE
2231	53	07/17	06-54	T48 LN5	TERM UN-LINE
2250	53	07/17	07-29	T01 LN1	TERM UN-LINE
2251	53	07/17	07-30	T03 LN1	TERM UN-LINE
2252	53	07/17	07-30	T03 LN1	TERM UN-LINE
2253	53	07/17	07-30	T04 LN1	TERM UN-LINE
2260	53	07/17	07-48	T01 LN1	TERM UN-LINE
2345	53	07/17	08-36	T01 LN1	TERM UN-LINE
2349	53	07/17	08-37	T01 LN1	TERM UN-LINE
2350	53	07/17	08-38	LN1	TEL LINE ON
2351	53	07/17	08-38	T02 LN1	TERM UN-LINE
2352	53	07/17	08-38	LN1	TEL LINE ON
2353	53	07/17	08-38	T03 LN1	TERM UN-LINE
2354	53	07/17	08-39	T04 LN1	TERM UN-LINE
2357	53	07/17	08-39	T01 LN1	TERM UN-LINE
2359	53	07/17	08-41	T01 LN1	TERM UN-LINE
2410	53	07/17	09-28	T36 LN4	TERM UN-LINE
2791	53	07/17	16-18	T45 LN5	TERM UN-LINE
2843	53	07/17	17-10	MC156	MC-CD ON-LINE
2873	53	07/17	17-50	T38 LN4	TERM UN-LINE
3056	53	07/17	22-45	T37 LN4	TERM UN-LINE
3057	53	07/17	22-46	T37 LN4	TERM UN-LINE
3058	53	07/17	22-47	T37 LN4	TERM UN-LINE
3059	53	07/17	22-48	T37 LN4	TERM UN-LINE
3060	53	07/17	22-48	T37 LN4	TERM UN-LINE
3061	53	07/17	22-49	T37 LN4	TERM UN-LINE
3062	53	07/17	22-50	T37 LN4	TERM UN-LINE
3063	53	07/17	22-50	T37 LN4	TERM UN-LINE
3065	53	07/17	22-51	T37 LN4	TERM UN-LINE
3067	53	07/17	22-52	T37 LN4	TERM UN-LINE
3068	53	07/17	22-52	T37 LN4	TERM UN-LINE
3071	53	07/17	22-58	T37 LN4	TERM UN-LINE
3166	53	07/18	01-30	S 20 T1 P1	PUMP UN-LINE
3167	53	07/18	01-31	S 20 T1 P1	PUMP UN-LINE
3168	53	07/18	01-31	S 20 T1	TANK, PUMPS UN

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TR 6567-11

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NYC-D TRANSACTION FILES BY-TRANSACTION TYPE 11-40 07/27/01 PAGE 1
 SEQ # TP DATE TIME 54- Put: PUMP, TANK, TERMINAL, LINE, MASTER CARD OFFLINE

TR 6567-11

521	54	07/15	13-57	PVF 51			PVF OFF-LINE
527	54	07/15	14-04	PVF 51			PVF OFF-LINE
570	54	07/15	15-22			T15 LN2	TERM OFF-LINE
593	54	07/15	15-56	MC158			M-CRD OFF-LINE
1040	54	07/16	12-07		S 20 T1		TANK,PUMPS OFF
1693	54	07/16	13-18		S 42 T1		TANK,PUMPS OFF
1703	54	07/16	13-36			T24 LN3	TERM OFF-LINE
1710	54	07/16	13-42			T24 LN3	TERM OFF-LINE
1745	54	07/16	14-41			LN7	TEL LINE OFF
1761	54	07/16	14-33			T48 LN5	TERM OFF-LINE
2213	54	07/17	06-33			T48 LN5	TERM OFF-LINE
2222	54	07/17	06-47			T48 LN5	TERM OFF-LINE
2229	54	07/17	06-54			T48 LN5	TERM OFF-LINE
2409	54	07/17	09-28			T36 LN4	TERM OFF-LINE
2447	54	07/17	09-56		S 11 T1		TANK,PUMPS OFF
2842	54	07/17	17-10	MC 56			M-CRD OFF-LINE
2871	54	07/17	17-50			T38 LN4	TERM OFF-LINE
3070	54	07/17	22-58			T27 LN4	TERM OFF-LINE
3173	54	07/18	01-39		S 20 T1 P1		PUMP OFF-LINE
4174	54	07/18	01-32		S 20 T1		TANK,PUMPS OFF
3488	54	07/18	10-10			T24 LN3	TERM OFF-LINE
3492	54	07/18	10-11			T24 LN3	TERM OFF-LINE
3502	54	07/18	10-20			T24 LN3	TERM OFF-LINE
3530	54	07/18	11-10			T24 LN3	TERM OFF-LINE
3551	54	07/18	11-58			LN3	TEL LINE OFF
3553	54	07/18	12-00			T24 LN3	TERM OFF-LINE
3560	54	07/18	12-15			T24 LN3	TERM OFF-LINE
3563	54	07/18	12-19			T24 LN3	TERM OFF-LINE
3625	54	07/18	14-23			T24 LN3	TERM OFF-LINE
4015	54	07/19	08-02			T04 LN1	TERM OFF-LINE
4192	54	07/19	10-15	PVF 54			PVF OFF-LINE
4078	54	07/19	10-24	PVF 54			PVF OFF-LINE
4144	54	07/19	12-17	PVF 54			PVF OFF-LINE
4145	54	07/19	12-17	PVF 54			PVF OFF-LINE
4490	54	07/20	07-45			T48 LN5	TERM OFF-LINE
4701	54	07/20	11-03	MC152			M-CRD OFF-LINE
4705	54	07/20	15-58			T45 LN5	TERM OFF-LINE
5120	54	07/20	17-43			T23 LN0	TERM OFF-LINE
5123	54	07/20	19-44		S 20 T1		TANK,PUMPS OFF
5132	54	07/20	17-40			T45 LN5	TERM OFF-LINE
5225	54	07/20	23-31			T93 LN0	TERM OFF-LINE
5732	54	07/21	06-38		S 20 T1		TANK,PUMPS OFF
6013	54	07/21	11-34			T37 LN4	TERM OFF-LINE
6102	54	07/21	13-34			T37 LN4	TERM OFF-LINE
6207	54	07/21	15-33			T94 LN0	TERM OFF-LINE
6268	54	07/21	16-04			T14 LN2	TERM OFF-LINE
6439	54	07/21	18-55			T04 LN1	TERM OFF-LINE
8008	54	07/21	22-50		S 43 T1		TANK,PUMPS OFF

TOTAL TRANSACTIONS THIS REPORT 48 GALLONS ISSUED .0 GALLONS RECEIVED .0

REPORT COMPLETE

NYCPD TRANSACTION FILES BY TRANSAC TYPE 11-50 07/27/61 PAGE 2

SLIP # TP DATE TIME SS - CHANGE FIELD IN TANK/PUMP FILE

477	55	07/15	13-10	G00100.0	S120 T1	NEW CUT-OFF PT
483	55	07/15	13-15	G00200.0	S122 T1	NEW CUT-OFF PT
487	55	07/15	13-21	G00050.0	S123 T1	NEW CUT-OFF PT
496	55	07/15	13-30	G00200.0	S 43 T1	NEW CUT-OFF PT
498	55	07/15	13-34	G00200.0	S 45 T1	NEW CUT-OFF PT
500	55	07/15	13-36	G00100.0	S 46 T1	NEW CUT-OFF PT
501	55	07/15	13-37	G00200.0	S 47 T1	NEW CUT-OFF PT
502	55	07/15	13-38	G00200.0	S 48 T1	NEW CUT-OFF PT
504	55	07/15	13-41	G00200.0	S 50 T1	NEW CUT-OFF PT
507	55	07/15	13-43	G00200.0	S 2 T1	NEW CUT-OFF PT
1692	55	07/16	13-17	G00100.0	S 42 T1	NEW CUT-OFF PT
1712	55	07/16	13-45	G00100.0	S 32 T1	NEW CUT-OFF PT
1715	55	07/16	13-49	G00200.0	S 30 T1	NEW CUT-OFF PT
1719	55	07/16	13-54	G00200.0	S 42 T1	NEW RE-ORDER PT
1724	55	07/16	14-01	G00200.0	S 26 T1	NEW CUT-OFF PT
1727	55	07/16	14-03	G00200.0	S 28 T1	NEW CUT-OFF PT
1729	55	07/16	14-05	G00200.0	S 20 T1	NEW CUT-OFF PT
2210	55	07/17	06-29	G00050.0	S 94 T1	NEW CUT-OFF PT
2211	55	07/17	06-30	G00200.0	S 94 T1	NEW RE-ORDER PT
2212	55	07/17	06-45	G00200.0	S104 T1	NEW RE-ORDER PT
2221	55	07/17	06-46	G00500.0	S104 T1	NEW RE-ORDER PT
2273	55	07/17	07-53	G00100.0	S 11 T1	NEW CUT-OFF PT
2274	55	07/17	07-54	G00100.0	S 11 T2	NEW CUT-OFF PT
2277	55	07/17	07-57	G00200.0	S 11 T1	NEW RE-ORDER PT
2278	55	07/17	07-58	G00200.0	S 11 T2	NEW RE-ORDER PT
2336	55	07/17	08-28	G01010.0	S106 T1	NEW TANK CAPAC
2335	55	07/17	08-29	G00100.0	S106 T1	NEW CUT-OFF PT
2339	55	07/17	08-30	G00200.0	S106 T1	NEW RE-ORDER PT
2380	55	07/17	08-56	G00200.0	S 23 T1	NEW CUT-OFF PT
2381	55	07/17	08-57	G00500.0	S 23 T1	NEW RE-ORDER PT
2391	55	07/17	09-05	G00200.0	S 25 T1	NEW CUT-OFF PT
2392	55	07/17	09-06	G00200.0	S 23 T1	NEW RE-ORDER PT
2396	55	07/17	09-07	G00500.0	S 25 T1	NEW RE-ORDER PT
2397	55	07/17	09-07	G00500.0	S 23 T1	NEW RE-ORDER PT
2661	55	07/17	13-51	G00100.0	S 5 T1	NEW CUT-OFF PT
2663	55	07/17	13-51	G00200.0	S 5 T1	NEW RE-ORDER PT
2666	55	07/17	13-54	G00100.0	S110 T1	NEW CUT-OFF PT
2668	55	07/17	13-55	G00100.0	S110 T1	NEW RE-ORDER PT
2669	55	07/17	13-56	G00200.0	S110 T1	NEW RE-ORDER PT
2675	55	07/17	14-07	G00200.0	S112 T1	NEW CUT-OFF PT
2677	55	07/17	14-09	G00200.0	S114 T1	NEW CUT-OFF PT
2678	55	07/17	14-11	G00500.0	S114 T1	NEW RE-ORDER PT
2681	55	07/17	14-17	G00575.0	S 2 T2	NEW TANK CAPAC

TOTAL TRANSACTIONS THIS REPORT 43 GALLONS ISSUED 0 GALLONS RECEIVED 0

REPORT COMPLETE

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NYCPD TRANSACTION FILES - BY TRANSAC. TYPE - 07-42 07/28/61 PAGE 1

SEQ # TP DATE TIME

61- Acquire OPERATOR

135	61	07/15	08-01	CD27529	NAME	J, NFOGART	DC569	SS	51-28-0051		
396	61	07/15	11-33	CD30237	NAME	F, NMALIN	UC201	SS	104-32-8666		
397	61	07/15	11-33	CD30236	NAME	F, NJOHNSU	DC201	SS	106-30-7348		
337	61	07/15	14-20	CD12113	NAME	S, NCLAUDI	UC509	SS	121-38-3768		
352	61	07/15	18-48	CD27685	NAME	W, NJACUS	UC122	SS	125-34-5634		
337	61	07/15	20-27	CD30304	NAME	J, NKENNY	UC	18	SS	130-32-7466	
1590	61	07/16	11-08	CD30361	NAME	J, NSCHRY	DC220	SS	120-32-1229		
1516	61	07/16	11-42	CD30362	NAME	D, NDLRGU	UC222	SS	116-40-5294		
1620	61	07/16	11-45	CD30363	NAME	M, NRUSENT	DC222	SS	115-30-8664		
2289	61	07/17	08-05	CD	14	NAME	A, NTEST	C	UC999	SS	999-99-9999
2600	61	07/17	12-19	CD30238	NAME	A, NJUDGE	DC490	SS	248-44-9453		
3570	61	07/18	12-28	CD30375	NAME	J, NYORE	UC	30	SS	16-30-3348	
3571	61	07/18	12-29	CD30376	NAME	V, NAPREA	UC	30	SS	133-40-5703	
3572	61	07/18	12-30	CD30377	NAME	S, J, NFITZGI	UC	30	SS	124-28-3183	
3574	61	07/18	12-31	CD30378	NAME	G, NHATCNE	UC	30	SS	115-22-5746	
3575	61	07/18	12-35	CD30379	NAME	R, NLITWEN	UC	30	SS	148-38-1161	
3576	61	07/18	12-35	CD30380	NAME	T, NMULLAN	UC	30	SS	71-30-9475	
3577	61	07/18	12-36	CD30381	NAME	A, NMULLIN	UC	30	SS	152-16-3027	
3578	61	07/18	12-36	CD30382	NAME	M, NMOLAN	UC	30	SS	129-38-7748	
3579	61	07/18	12-37	CD30383	NAME	L, NPLEVA	UC	30	SS	100-32-2001	
3281	61	07/18	12-38	CD30384	NAME	J, NPUL-HI	UC	30	SS	60-10-0201	
3582	61	07/18	12-38	CD30385	NAME	R, NREHPEN	UC	30	SS	92-44-3885	
3583	61	07/18	12-39	CD30386	NAME	J, NREZNIC	UC	30	SS	77-42-2119	
3584	61	07/18	12-40	CD30387	NAME	M, NTURPIN	UC	30	SS	132-34-7927	
3585	61	07/18	12-40	CD30388	NAME	V, NLULLA	UC	30	SS	91-40-6882	
3587	61	07/18	12-41	CD30389	NAME	N, NCORTEZ	UC	30	SS	106-48-3306	
3588	61	07/18	12-42	CD30390	NAME	R, NARAYU	UC	30	SS	107-40-2029	
3590	61	07/18	12-44	CD30391	NAME	M, NVELEZ	UC	30	SS	107-48-7580	
3591	61	07/18	12-44	CD30392	NAME	J, NFUNK	UC	30	SS	69-54-5326	
3592	61	07/18	12-44	CD30393	NAME	F, NHOPKIN	UC	30	SS	102-44-6042	
3594	61	07/18	12-46	CD30394	NAME	T, NKELLY	UC	30	SS	77-56-4993	
3595	61	07/18	12-46	CD30395	NAME	C, NPATTER	UC	30	SS	236-86-5752	
3595	61	07/18	12-48	CD30401	NAME	A, NSORREN	UC	30	SS	108-22-0890	
3614	61	07/18	14-03	CD30402	NAME	W, NANKENB	UC107	SS	111-18-4105		

SEQ #	TP	DATE	TIME	63-OPER. ONLINE
285	63	07/15	10-09	CD29954 SS 80-30-2175 DPR ON-LINE
288	63	07/15	10-11	CD29950 SS 53-30-6557 DPR ON-LINE
339	63	07/15	10-17	CD29813 SS 82-30-2052 DPR ON-LINE
508	63	07/15	13-44	CD16242 SS 75-32-9551 DPR ON-LINE
507	63	07/15	13-45	CD17741 SS 55-36-5050 DPR ON-LINE
510	63	07/15	13-46	CD29818 SS 53-30-6345 DPR ON-LINE
511	63	07/15	13-46	CD29817 SS107-30-8405 DPR ON-LINE
512	63	07/15	13-47	CD15850 SS102-32-3475 DPR ON-LINE
513	63	07/15	13-48	CD17211 SS 63-32-6684 DPR ON-LINE
514	63	07/15	13-48	CD29636 SS265-26-1579 DPR ON-LINE
515	63	07/15	13-49	CD10298 SS 61-34-7573 DPR ON-LINE
517	63	07/15	13-49	CD29764 SS142-48-1645 DPR ON-LINE
540	63	07/15	14-33	CD25409 SS109-34-7162 DPR ON-LINE
584	63	07/15	15-08	CD29738 SS 83-20-6097 DPR ON-LINE
1373	63	07/16	08-23	CD29686 SS 72-22-3106 DPR ON-LINE
1387	63	07/16	08-35	CD25011 SS118-32-5369 DPR ON-LINE
1512	63	07/16	10-13	CD28067 SS 90-38-2102 DPR ON-LINE
1523	63	07/16	10-20	CD20335 SS 71-30-7411 DPR ON-LINE
1527	63	07/16	10-21	CD20960 SS113-52-1978 DPR ON-LINE
1553	63	07/16	10-46	CD29750 SS110-28-7933 DPR ON-LINE
1555	63	07/16	10-47	CD29749 SS 71-36-8987 DPR ON-LINE
1556	63	07/16	10-47	CD29753 SS133-42-3765 DPR ON-LINE
1558	63	07/16	10-48	CD29754 SS 92-42-4672 DPR ON-LINE
1559	63	07/16	10-49	CD29755 SS 72-46-7322 DPR ON-LINE
1560	63	07/16	10-49	CD29756 SS 79-48-1780 DPR ON-LINE
1564	63	07/16	10-50	CD29757 SS124-48-3586 DPR ON-LINE
1565	63	07/16	10-51	CD29762 SS 87-42-5265 DPR ON-LINE
1566	63	07/16	10-52	CD29763 SS 61-30-8219 DPR ON-LINE
1569	63	07/16	10-53	CD29765 SS133-44-3392 DPR ON-LINE
1570	63	07/16	10-53	CD29766 SS124-38-2946 DPR ON-LINE
1571	63	07/16	10-54	CD29767 SS 50-36-2572 DPR ON-LINE
1573	63	07/16	10-55	CD29768 SS 90-38-2778 DPR ON-LINE
1574	63	07/16	10-55	CD29769 SS 71-36-8894 DPR ON-LINE
1577	63	07/16	10-56	CD29761 SS104-44-6878 DPR ON-LINE
1714	63	07/16	13-47	CD24215 SS 85-32-3227 DPR ON-LINE
1790	63	07/16	13-37	CD29669 SS 81-46-5484 DPR ON-LINE
1793	63	07/16	13-38	CD29673 SS 95-42-9984 DPR ON-LINE
2456	63	07/17	10-03	CD15218 SS122-36-3130 DPR ON-LINE
2605	63	07/17	12-22	CD11275 SS101-38-2806 DPR ON-LINE
2606	63	07/17	12-23	CD27685 SS125-34-5634 DPR ON-LINE
2674	63	07/17	14-03	CD18688 SS129-36-3022 DPR ON-LINE
4528	63	07/20	08-13	CD12113 SS121-38-3768 DPR ON-LINE
4741	63	07/20	12-19	CD29772 SS 44-46-9650 DPR ON-LINE
4743	63	07/20	12-21	CD29773 SS 62-46-8114 DPR ON-LINE
5145	63	07/20	12-22	CD29774 SS 75-44-7178 DPR ON-LINE
4746	63	07/20	12-22	CD29775 SS 54-48-3508 DPR ON-LINE
4748	63	07/20	12-23	CD29776 SS 58-46-7972 DPR ON-LINE
4750	63	07/20	12-24	CD29777 SS 92-42-0484 DPR ON-LINE
4752	63	07/20	12-24	CD29778 SS 94-44-9550 DPR ON-LINE
5116	63	07/21	07-58	CD30416 SS 90-46-1264 DPR ON-LINE
5212	63	07/21	09-59	CD30415 SS111-46-6114 DPR ON-LINE
5292	63	07/21	11-11	CD30405 SS120-48-6665 DPR ON-LINE
5293	63	07/21	11-12	CD30406 SS 68-44-9187 DPR ON-LINE
5294	63	07/21	11-12	CD30407 SS 51-32-7141 DPR ON-LINE

WCPD	TRANSACTION FILES	- BY TRANSAC. TYPE -	08-15	07/28/61	PAGE	1
TP DATE	TIME					
64-OPER OFF-LINE						
110	04	07/15	07-36	CD10596	SS 69-28-9081	OPK OFF-LINE
124	04	07/15	07-50	CD11387	SS 70-28-5137	OPK OFF-LINE
126	04	07/15	07-52	CD15818	SS 72-28-6371	OPK OFF-LINE
180	04	07/15	08-40	CD28161	SS 54-20-8175	OPK OFF-LINE
305	04	07/15	10-28	CD27520	SS 69-36-0576	OPK OFF-LINE
325	04	07/15	10-38	CD15511	SS 55-42-8068	OPK OFF-LINE
325	04	07/15	10-40	CD21404	SS 59-32-0978	OPK OFF-LINE
333	04	07/15	10-44	CD27882	SS 60-34-3245	OPK OFF-LINE
406	04	07/15	11-44	CD18520	SS104-42-5142	OPK OFF-LINE
445	04	07/15	12-30	CD18562	SS 79-48-5361	OPK OFF-LINE
440	04	07/15	14-23	CD12113	SS121-38-3768	OPK OFF-LINE
535	04	07/15	18-31	CD13021	SS119-34-1494	OPK OFF-LINE
836	04	07/15	18-31	CD13217	SS109-38-4324	OPK OFF-LINE
851	04	07/15	18-48	CD11275	SS101-38-2806	OPK OFF-LINE
853	04	07/15	18-49	CD27685	SS125-34-5636	OPK OFF-LINE
1336	04	07/16	08-00	CD13987	SS 54-40-9574	OPK OFF-LINE
1344	04	07/16	08-03	CD30360	SS 54-40-9574	OPK OFF-LINE
1402	04	07/16	08-45	CD20690	SS133-26-2166	OPK OFF-LINE
1422	04	07/16	08-57	CD18154	SS 58-32-9655	OPK OFF-LINE
1436	04	07/16	09-11	CD16402	SS131-32-1847	OPK OFF-LINE
2603	04	07/17	12-20	CD30238	SS248-44-9453	OPK OFF-LINE
3002	04	07/17	20-55	CD14602	SS 69-36-1948	OPK OFF-LINE
3512	04	07/18	14-04	CD30402	SS111-18-4105	OPK OFF-LINE
3889	04	07/19	00-22	CD30405	SS120-48-6665	OPK OFF-LINE
3891	04	07/19	00-23	CD30406	SS 68-44-9187	OPK OFF-LINE
3943	04	07/19	00-23	CD30407	SS 51-32-7141	OPK OFF-LINE
3952	04	07/19	00-24	CD30409	SS100-24-7809	OPK OFF-LINE
3957	04	07/19	00-25	CD30410	SS 53-48-0874	OPK OFF-LINE
3958	04	07/19	00-26	CD30411	SS 84-54-8711	OPK OFF-LINE
3994	04	07/19	00-26	CD30413	SS106-46-1862	OPK OFF-LINE
3900	04	07/19	00-27	CD30414	SS 80-38-1112	OPK OFF-LINE
3969	04	07/19	00-24	CD30410	SS 92-44-0063	OPK OFF-LINE
3970	04	07/19	00-24	CD30415	SS111-46-6114	OPK OFF-LINE
3971	04	07/19	00-25	CD30416	SS 90-46-1264	OPK OFF-LINE
3972	04	07/19	00-25	CD30417	SS 91-52-8960	OPK OFF-LINE
3973	04	07/19	00-26	CD30418	SS 63-56-7568	OPK OFF-LINE
3974	04	07/19	00-26	CD30420	SS131-40-0407	OPK OFF-LINE
3975	04	07/19	00-27	CD27820	SS119-42-9107	OPK OFF-LINE
4180	04	07/19	14-27	CD15850	SS103-46-6348	OPK OFF-LINE
4190	04	07/19	14-29	CD17211	SS 63-42-5779	OPK OFF-LINE
4192	04	07/19	14-30	CD17741	SS116-44-1634	OPK OFF-LINE
4195	04	07/19	14-31	CD21404	SS119-50-8520	OPK OFF-LINE
4197	04	07/19	14-33	CD29817	SS 63-44-9606	OPK OFF-LINE
4199	04	07/19	14-34	CD29818	SS118-44-1051	OPK OFF-LINE
4202	04	07/19	14-35	CD30421	SS 63-44-8159	OPK OFF-LINE
4499	04	07/20	07-52	CD14540	SS 69-36-1948	OPK OFF-LINE
4577	04	07/20	08-58	CD30422	SS 53-50-0865	OPK OFF-LINE
4578	04	07/20	08-58	CD30423	SS 92-56-7508	OPK OFF-LINE
4579	04	07/20	08-59	CD30424	SS126-44-7693	OPK OFF-LINE
4580	04	07/20	08-59	CD30425	SS 95-52-1095	OPK OFF-LINE
4581	04	07/20	08-59	CD30426	SS112-38-1732	OPK OFF-LINE
4582	04	07/20	09-00	CD30427	SS127-28-3714	OPK OFF-LINE
4583	04	07/20	09-00	CD30428	SS112-38-1732	OPK OFF-LINE
4584	04	07/20	09-18	CD30429	SS131-38-3495	OPK OFF-LINE

SEQ #	TP	DATE	TIME	65 - CHANGE FIELD IN OPER. FILE
116	65	07/15	07-44	CD18265 NEW SS 62-24-8267 SS 62-34-8267 LH SS #
156	65	07/15	08-15	CD17131 OC165 SS 69-30-5054 CH OPR CMND
157	65	07/15	08-17	CD17654 OC 71 SS202-28-2965 CH OPR CMND
158	65	07/15	08-17	CD17454 NEW PVF-NO SS202-28-2965 CH PVF STATUS
297	65	07/15	10-22	CD19848 OC105 SS 59-30-4860 CH OPR CMND
307	65	07/15	10-31	CD22771 OC163 SS 72-38-4899 CH OPR CMND
310	65	07/15	10-32	CD22790 OC164 SS106-32-6542 CH OPR CMND
316	65	07/15	10-33	CD26684 OC112 SS124-38-2828 CH OPR CMND
322	65	07/15	10-36	CD16621 OC 45 SS 56-42-1967 CH OPR CMND
401	65	07/15	11-39	CD23035 UC161 SS128-34-2404 CH OPR CMND
572	65	07/15	15-01	CD13509 K.RODRIGU SS 94-44-7070 NEW NAME
576	65	07/15	15-01	CD13509 NEW PVF-YES SS 94-44-7070 CH PVF STATUS
1360	65	07/16	08-13	CD26913 OC280 SS105-30-7438 CH OPR CMND
1364	65	07/16	08-17	CD18154 UC496 SS 58-32-9655 CH JPR CMND
1367	65	07/16	08-19	CD19430 OC105 SS123-32-5320 CH OPR CMND
1384	65	07/16	08-33	CD12343 OC378 SS127-30-5269 CH OPR CMND
1388	65	07/16	08-37	CD11400 OC578 SS106-36-2190 CH OPR CMND
1390	65	07/16	08-39	CD16402 OC578 SS131-32-1847 CH OPR CMND
1393	65	07/16	08-41	CD12462 DC 23 SS133-28-3897 CH OPR CMND
1397	65	07/16	08-43	CD12349 OC525 SS116-42-9748 CH OPR CMND
1471	65	07/16	09-46	CD14294 OC367 SS124-40-3003 CH OPR CMND
1476	65	07/16	09-50	CD26972 UC367 SS 84-44-4314 CH OPR CMND
2482	65	07/17	10-23	CD24661 UC315 SS118-30-8904 CH OPR CMND
2486	65	07/17	10-27	CD24942 OC338 SS 98-30-6602 CH OPR CMND
2487	65	07/17	10-27	CD24942 NEW PVF-NOS SS 98-30-6602 CH PVF STATUS
2489	65	07/17	10-29	CD18327 UC333 SS 72-22-9338 CH OPR CMND
2491	65	07/17	10-29	CD18327 NEW PVF-NOS SS 72-22-9338 CH PVF STATUS
2493	65	07/17	10-32	CD25127 CC332 SS120-26-2196 CH OPR CMND
2497	65	07/17	10-39	CD10362 NEW PVF-YES SS109-34-7082 CH PVF STATUS
2505	65	07/17	10-46	CD24660 NEW SS 65-26-9676 SS 65-26-8676 CH SS #
2508	65	07/17	10-47	CD24660 UC330 SS 65-26-9676 CH OPR CMND
2510	65	07/17	10-49	CD16639 UC328 SS113-26-4639 CH OPR CMND
2512	65	07/17	10-50	CD16639 NEW PVF-NOS SS113-26-4639 CH PVF STATUS
2514	65	07/17	10-51	CD24981 UC332 SS 88-18-5003 CH OPR CMND
2517	65	07/17	10-52	CD25000 UC332 SS 52-28-5634 CH OPR CMND
2517	65	07/17	10-53	CD15748 UC298 SS 94-32-6898 CH OPR CMND
2525	65	07/17	10-56	CD27795 OC300 SS106-40-3344 CH OPR CMND
2526	65	07/17	10-58	CD27795 NEW PVF-NOS SS106-40-3344 CH PVF STATUS
2528	65	07/17	10-59	CD18400 UC332 SS130-32-1775 CH OPR CMND
2529	65	07/17	11-00	CD18400 NEW PVF-NOS SS130-32-1775 CH PVF STATUS
2530	65	07/17	11-02	CD27769 UC329 SS129-34-3784 CH OPR CMND
2535	65	07/17	11-05	CD24557 UC328 SS115-30-3706 CH OPR CMND
2536	65	07/17	11-06	CD24557 NEW PVF-NOS SS115-30-3706 CH PVF STATUS
2540	65	07/17	11-23	CD26629 UC297 SS 69-42-7916 CH OPR CMND
2542	65	07/17	11-25	CD25519 UC329 SS124-40-1965 CH OPR CMND
2553	65	07/17	11-28	CD25097 UC299 SS 73-42-9262 CH JPR CMND
2558	65	07/17	11-35	CD23440 UC313 SS 50-32-7863 CH OPR CMND
2559	65	07/17	11-36	CD26558 UC313 SS119-40-6523 CH OPR CMND
2561	65	07/17	11-37	CD25127 UC331 SS 61-40-7422 CH OPR CMND
2564	65	07/17	11-38	CD25145 UC332 SS 87-38-7652 CH OPR CMND
2566	65	07/17	11-39	CD25152 UC332 SS113-34-4464 CH OPR CMND
2569	65	07/17	11-40	CD26670 UC314 SS120-24-9205 CH OPR CMND
2570	65	07/17	11-42	CD26701 UC314 SS 90-32-7943 CH JPR CMND
2573	65	07/17	11-44	CD26627 UC334 SS267-82-7792 CH JPR CMND

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SEQ # TP DATE TIME

67 - NEW CARD NUMBER OPERATOR

069	07	07/15	16-07	NEW	CD30180	OLD	11201	SS	53-40-2996	NEW	CARD #
070	07	07/15	16-07	NEW	CD30181	OLD	11202	SS	53-36-4519	NEW	CARD #
071	07	07/15	16-08	NEW	CD30182	OLD	11204	SS	69-40-1372	NEW	CARD #
072	07	07/15	16-08	NEW	CD30183	OLD	11207	SS	72-38-0175	NEW	CARD #
073	07	07/15	16-09	NEW	CD30184	OLD	11213	SS	80-36-7499	NEW	CARD #
074	07	07/15	16-09	NEW	CD30185	OLD	11239	SS	52-32-0433	NEW	CARD #
081	07	07/15	16-10	NEW	CD30197	OLD	11256	SS	107-32-4030	NEW	CARD #
084	07	07/15	16-11	NEW	CD30186	OLD	11257	SS	112-34-1657	NEW	CARD #
085	07	07/15	16-11	NEW	CD30187	OLD	11258	SS	62-30-1503	NEW	CARD #
086	07	07/15	16-12	NEW	CD30188	OLD	11259	SS	77-36-2808	NEW	CARD #
087	07	07/15	16-12	NEW	CD30189	OLD	11260	SS	78-34-1604	NEW	CARD #
088	07	07/15	16-13	NEW	CD30190	OLD	11265	SS	81-42-8961	NEW	CARD #
090	07	07/15	16-13	NEW	CD30191	OLD	11266	SS	138-34-3403	NEW	CARD #
093	07	07/15	16-14	NEW	CD30192	OLD	11268	SS	51-30-8220	NEW	CARD #
094	07	07/15	16-14	NEW	CD30193	OLD	11273	SS	142-34-4069	NEW	CARD #
095	07	07/15	16-15	NEW	CD30194	OLD	11303	SS	101-18-5004	NEW	CARD #
096	07	07/15	16-15	NEW	CD30195	OLD	11305	SS	97-40-6219	NEW	CARD #
097	07	07/15	16-16	NEW	CD30196	OLD	11306	SS	86-42-0764	NEW	CARD #
100	07	07/15	16-16	NEW	CD30198	OLD	11312	SS	99-34-9183	NEW	CARD #
101	07	07/15	16-16	NEW	CD30199	OLD	11314	SS	82-42-8084	NEW	CARD #
102	07	07/15	16-17	NEW	CD30200	OLD	11378	SS	90-30-2657	NEW	CARD #
103	07	07/15	16-17	NEW	CD30201	OLD	11379	SS	107-34-0344	NEW	CARD #
110	07	07/15	16-18	NEW	CD30202	OLD	11380	SS	85-36-0222	NEW	CARD #
111	07	07/15	16-18	NEW	CD30203	OLD	11385	SS	123-36-1832	NEW	CARD #
113	07	07/15	16-18	NEW	CD30204	OLD	11401	SS	59-40-2483	NEW	CARD #
114	07	07/15	16-19	NEW	CD30205	OLD	11402	SS	58-40-2872	NEW	CARD #
115	07	07/15	16-19	NEW	CD30206	OLD	11409	SS	79-36-7233	NEW	CARD #
117	07	07/15	16-20	NEW	CD30207	OLD	11410	SS	99-40-6040	NEW	CARD #
121	07	07/15	16-20	NEW	CD30208	OLD	11411	SS	122-34-0192	NEW	CARD #
122	07	07/15	16-20	NEW	CD30209	OLD	11417	SS	51-32-3136	NEW	CARD #
125	07	07/15	16-20	NEW	CD30211	OLD	11418	SS	52-38-6460	NEW	CARD #
128	07	07/15	16-21	NEW	CD30213	OLD	11419	SS	71-32-2828	NEW	CARD #
131	07	07/15	16-22	NEW	CD30214	OLD	11429	SS	50-36-9247	NEW	CARD #
133	07	07/15	16-25	NEW	CD30216	OLD	11430	SS	136-32-1676	NEW	CARD #
135	07	07/15	16-26	NEW	CD30217	OLD	11431	SS	84-34-8402	NEW	CARD #
137	07	07/15	16-27	NEW	CD30218	OLD	11432	SS	104-40-9034	NEW	CARD #
138	07	07/15	16-27	NEW	CD30219	OLD	11445	SS	92-44-8115	NEW	CARD #
139	07	07/15	16-27	NEW	CD30220	OLD	11446	SS	126-40-9553	NEW	CARD #
142	07	07/15	16-28	NEW	CD30221	OLD	11447	SS	113-36-7952	NEW	CARD #
143	07	07/15	16-28	NEW	CD30222	OLD	11449	SS	122-38-0175	NEW	CARD #
145	07	07/15	16-29	NEW	CD30223	OLD	11450	SS	102-36-0736	NEW	CARD #
146	07	07/15	16-29	NEW	CD30224	OLD	11453	SS	74-36-6066	NEW	CARD #
149	07	07/15	16-30	NEW	CD30226	OLD	11454	SS	114-38-0346	NEW	CARD #
150	07	07/15	16-30	NEW	CD30227	OLD	11455	SS	63-36-7139	NEW	CARD #
152	07	07/15	16-30	NEW	CD30228	OLD	11456	SS	64-44-0322	NEW	CARD #
153	07	07/15	16-31	NEW	CD30229	OLD	11457	SS	63-34-2557	NEW	CARD #
154	07	07/15	16-31	NEW	CD30230	OLD	11464	SS	87-42-0575	NEW	CARD #
155	07	07/15	16-31	NEW	CD30231	OLD	11469	SS	122-40-5127	NEW	CARD #
156	07	07/15	16-32	NEW	CD30232	OLD	11492	SS	89-26-8967	NEW	CARD #
157	07	07/15	16-32	NEW	CD30233	OLD	22135	SS	122-32-1354	NEW	CARD #
158	07	07/15	16-33	NEW	CD30234	OLD	22146	SS	102-38-1979	NEW	CARD #

NYCPD	TRANSACTION FILES	- BY TRANSAC. TYPE -	07-53	07/28/61	PAGE	1
69 - DELETE OPERATOR						
SEQ #	TR DATE	TIME				
119	69	07/15	07-47	CD18265	SS 62-24-8267	DELETE JPR
387	69	07/15	11-27	CD27685	SS 127-30-6943	DELETE JPR
411	69	07/15	11-48	CD23493	SS 82-32-3107	DELETE JPR
412	69	07/15	11-49	CD19887	SS 55-20-1404	DELETE JPR
414	69	07/15	11-50	CD19816	SS 125-34-6264	DELETE JPR
416	69	07/15	11-50	CD13217	SS 50-30-7663	DELETE JPR
417	69	07/15	11-51	CD12113	SS 85-36-9892	DELETE JPR
419	69	07/15	11-51	CD19208	SS 228-22-6987	DELETE JPR
547	69	07/15	14-35	CD26222	SS 127-20-6173	DELETE JPR
547	69	07/15	14-35	CD13021	SS 130-28-4844	DELETE JPR
581	69	07/15	15-03	CD22085	SS 146-28-3474	DELETE JPR
641	69	07/15	15-51	CD21749	SS 131-34-3133	DELETE JPR
793	69	07/15	21-03	CD 304	SS 130-32-7966	DELETE JPR
1585	69	07/16	11-06	CD23789	SS 120-32-1229	DELETE JPR
1612	69	07/16	11-39	CD23862	SS 216-40-5294	DELETE JPR
1919	69	07/16	11-44	CD23886	SS 125-26-0786	DELETE JPR
2286	69	07/17	08-04	CD 17	SS 299-99-9992	DELETE JPR
2374	69	07/17	08-51	CD15007	SS 244-66-8043	DELETE JPR
2923	69	07/17	18-39	CD21586	SS 129-26-8245	DELETE JPR
2924	69	07/17	18-39	CD21404	SS 59-32-0978	DELETE JPR
2969	69	07/17	19-42	CD16242	SS 75-32-9551	DELETE JPR
2966	69	07/17	19-42	CD17741	SS 55-36-5050	DELETE JPR
2968	69	07/17	19-43	CD29818	SS 53-30-6345	DELETE JPR
2969	69	07/17	19-44	CD29817	SS 109-30-8905	DELETE JPR
2970	69	07/17	19-45	CD15850	SS 102-32-3475	DELETE JPR
2971	69	07/17	19-45	CD17211	SS 63-32-6684	DELETE JPR
2984	69	07/17	20-18	CD14540	SS 121-26-1609	DELETE JPR
3001	69	07/17	20-52	CD14544	SS 53-30-0713	DELETE JPR
3013	69	07/18	14-02	CD20040	SS 111-18-4105	DELETE JPR
3907	69	07/19	00-42	CD30410	SS 53-48-0874	DELETE JPR
4105	69	07/19	10-51	CD19569	SS 116-22-7164	DELETE JPR
4567	69	07/20	08-53	CD20538	SS 127-28-3714	DELETE JPR
6202	69	07/21	15-25	CD10660	SS 81-44-7209	DELETE JPR
6214	69	07/21	15-36	CD22217	SS 63-40-3318	DELETE JPR
6221	69	07/21	15-41	CD22934	SS 85-40-2691	DELETE JPR
6235	69	07/21	15-47	CD23043	SS 98-44-9324	DELETE JPR
6255	69	07/21	15-57	CD23047	SS 67-32-5866	DELETE JPR
6261	69	07/21	16-01	CD23048	SS 109-40-5401	DELETE JPR
6274	69	07/21	16-06	CD23050	SS 73-36-0294	DELETE JPR
6280	69	07/21	16-10	CD23055	SS 53-42-8700	DELETE JPR
6292	69	07/21	16-16	CD23056	SS 71-30-4507	DELETE JPR
6296	69	07/21	16-19	CD23057	SS 79-30-1070	DELETE JPR
6302	69	07/21	16-21	CD23058	SS 111-44-5785	DELETE JPR
6395	69	07/21	18-05	CD11343	SS 113-36-9716	DELETE JPR
6398	69	07/21	18-07	CD11548	SS 72-34-9365	DELETE JPR
6400	69	07/21	18-09	CD18363	SS 102-34-8564	DELETE JPR
6404	69	07/21	18-10	CD20650	SS 89-42-6402	DELETE JPR
6448	69	07/21	18-39	CD18054	SS 264-68-8626	DELETE JPR
6525	69	07/21	20-30	CD18488	SS 74-32-6442	DELETE JPR
6528	69	07/21	20-33	CD25471	SS 103-22-5364	DELETE JPR
6532	69	07/21	20-36	CD25472	SS 36-34-3868	DELETE JPR
6536	69	07/21	20-39	CD25474	SS 130-20-8069	DELETE JPR

TOTAL TRANSACTIONS THIS REPORT 52 GALLONS ISSUED 20 GALLONS RECEIVED 40

TR 6567-II

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90 - FUEL RECEIPT

SEL # TP DATE TIME

47	70	07/15	01-36	G	976.0	MC157	S000	T1	F2	P1	SS 88-36-4009	FUEL	RECD
217	70	07/15	02-08	G	488.0	MC 51	S000	T1	F2	P1	SS116-26-6527	FUEL	RECD
332	70	07/15	10-44	G	900.0	MC 60	S000	T1	F2	P1	SS109-32-3487	FUEL	RECD
365	70	07/15	11-07	G	400.0	MC 61	S000	T1	F2	P1	SS112-24-7674	FUEL	RECD
453	70	07/15	12-40	G	1000.0	MC 73	S000	T1	F2	P1	SS 95-34-5614	FUEL	RECD
568	70	07/15	14-54	G	1105.0	MC 52	S000	T1	F2	P1	SS132-24-5797	FUEL	RECD
592	70	07/15	13-38	G	1000.0	MC 75	S000	T1	F2	P1	SS 84-40-2755	FUEL	RECD
843	70	07/15	18-39	G	1000.0	MC 75	S000	T1	F2	P1	SS 84-40-2755	FUEL	RECD
328	70	07/15	18-57	G	1000.0	MC 74	S000	T1	F2	P1	SS 63-40-2699	FUEL	RECD
935	70	07/15	20-26	G	1000.0	MC 70	S000	T1	F2	P2	SS119-20-7057	FUEL	RECD
995	70	07/15	21-10	G	1500.0	MC 71	S000	T1	F2	P1	SS242-54-7218	FUEL	RECD
1119	70	07/16	00-18	G	500.0	MC 78	S000	T1	F2	P1	SS118-34-8445	FUEL	RECD
1257	70	07/16	05-45	G	1820.0	MC166	S000	T1	F2	P1	SS 76-34-1278	FUEL	RECD
1348	70	07/16	08-05	G	147.0	MC155	S000	T1	F2	P1	SS108-44-2739	FUEL	RECD
1352	70	07/16	08-05	G	110.0	MC155	S000	T2	F2	P1	SS108-44-2739	FUEL	RECD
1440	70	07/16	09-15	G	802.0	MC 59	S000	T1	F2	P2	SS 73-36-1074	FUEL	RECD
1735	70	07/16	17-59	G	282.0	MC165	S000	T2	F2	P1	SS - - - - 0	FUEL	RECD
2254	70	07/17	07-31	G	1125.0	MC 63	S000	T1	F2	P1	SS118-28-7543	FUEL	RECD
2282	70	07/17	08-30	G	300.0	MC 61	S000	T1	F2	P1	SS 67-14-1178	FUEL	RECD
2315	70	07/17	08-18	G	500.0	MC 60	S000	T1	F2	P1	SS119-22-6953	FUEL	RECD
2322	70	07/17	08-00	G	40	MC 53	S000	T1	F2	P1	SS104-32-0978	FUEL	RECD
2385	70	07/17	09-01	G	267.0	MC 53	S000	T1	F2	P1	SS104-32-0978	FUEL	RECD
2404	70	07/17	09-15	G	1000.0	MC258	S000	T1	F2	P2	SS121-30-4407	FUEL	RECD
2431	70	07/17	10-22	G	913.0	MC 52	S000	T1	F2	P1	SS131-42-3924	FUEL	RECD
2570	70	07/17	12-08	G	1000.0	MC 69	S000	T1	F2	P1	SS126-34-2761	FUEL	RECD
2893	70	07/17	18-07	G	1000.0	MC 70	S000	T1	F2	P1	SS 52-36-9781	FUEL	RECD
2902	70	07/17	18-17	G	751.0	MC 81	S000	T1	F2	P1	SS 61-40-9239	FUEL	RECD
2928	70	07/17	13-41	G	735.0	MC 85	S000	T1	F2	P1	SS106-36-2192	FUEL	RECD
2983	70	07/17	20-07	G	832.0	MC 64	S000	T1	F2	P2	SS 76-12-2972	FUEL	RECD
3033	70	07/17	21-48	G	430.0	MC258	S000	T1	F2	P1	SS127-20-7265	FUEL	RECD
3490	70	07/18	08-32	G	246.0	MC155	S000	T2	F2	P1	SS116-30-0999	FUEL	RECD
3451	70	07/18	08-42	G	468.0	MC155	S000	T1	F2	P1	SS116-30-0999	FUEL	RECD
3552	70	07/18	12-15	G	1100.0	MC 74	S000	T1	F2	P1	SS133-30-1376	FUEL	RECD
3667	70	07/18	15-47	G	930.0	MC 73	S000	T1	F2	P1	SS 73-18-6926	FUEL	RECD
4116	70	07/19	11-08	G	682.0	MC 54	S000	T1	F2	P1	SS 84-34-6084	FUEL	RECD
4450	70	07/20	05-53	G	1137.0	MC166	S000	T1	F2	P1	SS 67-36-7908	FUEL	RECD
4467	70	07/20	06-50	G	430.0	MC 62	S000	T1	F2	P1	SS 81-18-5577	FUEL	RECD
4613	70	07/20	07-31	G	930.0	MC156	S000	T1	F2	P1	SS 52-34-4204	FUEL	RECD
4809	70	07/20	13-34	G	1420.0	MC 75	S000	T1	F2	P1	SS 99-36-2043	FUEL	RECD
4876	70	07/20	13-41	G	1310.0	MC 70	S000	T1	F2	P1	SS133-36-0897	FUEL	RECD
5067	70	07/20	18-50	G	774.0	MC172	S000	T1	F2	P1	SS 58-24-8605	FUEL	RECD
5150	70	07/20	20-22	G	214.0	MC155	S000	T1	F2	P1	SS 91-12-3106	FUEL	RECD
5161	70	07/20	20-46	G	376.0	MC155	S000	T2	F2	P1	SS 91-12-3106	FUEL	RECD
5746	70	07/21	07-01	G	343.0	MC 85	S000	T1	F2	P1	SS 91-07-1695	FUEL	RECD
5787	70	07/21	07-57	G	725.0	MC 64	S000	T1	F2	P1	SS 54-22-6167	FUEL	RECD
5863	70	07/21	09-15	G	700.0	MC165	S000	T1	F2	P1	SS504-46-0547	FUEL	RECD
5864	70	07/21	09-16	G	400.0	MC165	S000	T2	F2	P1	SS504-46-0547	FUEL	RECD
5865	70	07/21	09-16	G	400.0	MC165	S000	T2	F2	P1	SS504-46-0547	FUEL	RECD
6022	70	07/21	11-45	G	616.0	MC 77	S000	T1	F2	P1	SS 96-28-3606	FUEL	RECD
6066	70	07/21	12-44	G	525.0	MC 67	S000	T1	F2	P1	SS 90-42-3116	FUEL	RECD
6067	70	07/21	12-45	G	40	MC 67	S000	T2	F2	P1	SS 90-42-3116	FUEL	RECD
6429	70	07/21	18-43	G	600.0	MC 78	S000	T1	F2	P1	SS 76-28-4213	FUEL	RECD
6624	70	07/21	23-41	G	1300.0	MC 63	S000	T1	F2	P1	SS 73-36-2761	FUEL	RECD

10-21 00/12/01 PAGE 1
 0011 05 09/07 16-02 CD163 S105 T1 F2 P1 6008.0 MPG UC389 SS 50-38-2678
 GALLONS ISSUED 8.0
 0014 05 09/07 09-11 CD163 S105 T1 F2 P2 6010.0 MPG UC389 SS 63-30-9031
 GALLONS ISSUED 10.0
 0037 05 03/06 09-12 CD163 S105 T1 F2 P2 6004.5 MPG UC389 SS 59-30-0133
 GALLONS ISSUED 4.5
 0024 05 06/07 10-23 CD163 S105 T1 F2 P1 6000.0 MPG UC389 SS 79-30-0881
 GALLONS ISSUED 8.0
 0052 05 03/06 04-55 CD163 S105 T1 F2 P1 6010.0 MPG UC389 SS119-34-8349
 GALLONS ISSUED 10.0
 0029 05 04/07 10-39 CD163 S105 T1 F2 P1 6005.0 MPG UC389 SS 74-30-0124
 GALLONS ISSUED 5.0
 TOTAL GALLONS ISSUED THIS REPORT 45.5
 REPORT COMPLETE

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Appendix H

AN INTRODUCTION TO THE DEPARTMENTWIDE
AUTOMATED FUEL MONITORING SYSTEM,
MARCH 1980



an introduction to
**The Department Wide
Automated
Fuel Monitoring System**

MARCH 1980

The following documents were prepared jointly by Sergeant Thomas Kiernan, New York City Police Department, and Mr. William McGrath, Naval Underwater Systems Center.

Sergeant Kiernan is in charge of the Fuel Monitoring System, Motor Transport Division, New York City Police Department.

Mr. McGrath, a computer systems analyst at the Naval Underwater Systems Center, is on assignment to the New York City Police Department through the Intergovernmental Personnel Act of 1970, and NYCPD Contract # 225724, sponsored by the National Science Foundation, Office of Intergovernmental Science and Public Technology, and is Project Leader.

In May of 1977, Mr. William McGrath began his assignment with the New York City Police Department. The Police Department requested that he study its Fueling System and make recommendations to improve the existing operation.

Questionnaires approved by the Chief of Operations were sent to all Police Department Fueling locations. An analysis of the information received revealed the following:



New York City
Police Department
Fuel Dispensing Study

Questionnaire Pertaining to Fuel Dispensing

Command _____

Location _____

1. Number of personnel assigned to dispensing gasoline _____
2. The rank/title of the above personnel
P.O. _____ MVO _____ Laborer _____
Cleaner _____ Other _____
3. Are the gasoline dispensing duties full time or collateral?
Full time _____ Collateral _____
If collateral, what percentage of time spent in this duty? _____ %
4. Number of pumps at your station _____
5. Total tank capacity _____
6. Number of privately owned vehicles permitted to get fuel at your station _____
7. Specify the amount of gasoline delivered by the vendor to your tanks on each of the listed dates as per Precinct Log Entries.
1977
Jan. 1 _____ Jan. 9 _____ Jan. 17 _____ Jan. 25 _____
Jan. 2 _____ Jan. 10 _____ Jan. 18 _____ Jan. 26 _____
Jan. 3 _____ Jan. 11 _____ Jan. 19 _____ Jan. 27 _____
Jan. 4 _____ Jan. 12 _____ Jan. 20 _____ Jan. 28 _____
Jan. 5 _____ Jan. 13 _____ Jan. 21 _____ Jan. 29 _____
Jan. 6 _____ Jan. 14 _____ Jan. 22 _____ Jan. 30 _____
Jan. 7 _____ Jan. 15 _____ Jan. 23 _____ Jan. 31 _____
Jan. 8 _____ Jan. 16 _____ Jan. 24 _____
8. Please enclose MT 9 (Gasoline and Oil Receipt Book or Books) for the period January 1 through January 31, 1977, with the completed questionnaire.
At the completion of this study the MT 9 will be returned.

General Recording Problems Noted During Analysis

**Infrequent instances of
recording errors were
noted in the following areas:**

- Receipts without gallons dispensed posted
- Vehicles not identified properly
- Protective counter readings not recorded or recorded after-the-fact
- Incomplete entries
- Postings illegible
- Pages missing
- Dates skipped yet gas delivered during period
- Receipt books poorly maintained

Major System Problems

- System lacks capability to correlate deliveries and dispensing on both a continuing and demand basis for control and/or audit purposes
- No final accounting, control or overall managerial responsibility of total gas dispensing system
- No systematic ordering procedure or delivery scheduling
- Statistical data on fuel consumption for various classes and types of vehicles not readily available

Manpower & Labor Cost

Manpower	No. Personnel Involved	*** Equivalent Man Years
Police Officers	111	52.27
Motor Vehicle Operators	6	3.9
Cleaners	32	12.74
Others	8	4.95
Total Manpower	157	
Total Equivalent Man Years		73.86

Figures based on the percent
of time dispensing fuel as
indicated on questionnaires

Cost	
Labor Per Gallon Dispensed	19 ¹
Monthly Labor Cost for Jan 1977	\$94,478 ^{1,2}
Projected Annual Labor Cost	\$1,133,762 ^{1,2}

¹Figures are in 1977 dollars.

²Labor costs are unaccelerated salaries.

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The Police Department determined that an automated on-line fuel monitoring system offered the best opportunity to reduce operating costs and improve the management of fuel. The automated system will:

- Strictly control fuel deliveries
- Record usage
- Produce Management Reports

There has been a pilot system in operation on Staten Island since November 1978 and a contract has now been awarded for installation of a Department-wide system.



What the Automated Fuel Monitoring System will do for you

Benefits

1. Release Personnel: Those people presently involved in the dispensing of fuel will be available for reassignment to other tasks.

Title	No. of Personnel	Man Years
P.O.	111	52.27
M.V.O.	6	3.9
Cleaners	32	12.74
Others	8	4.95

2. Eliminate Certain Procedures: This system will remove a major portion of the documentation and responsibility involved in the dispensing and ordering of fuel. There will be no need for:

- Gas receipt books
- Locks and keys for gas pumps
- Ordering fuel
- Quarterly vehicle mileage reports
- Entries in the Command Log requiring gasoline summary
- Reporting the quantity of gasoline to C.U.
- Private vehicles to use Department I.D. Plates to obtain fuel
- Monthly and quarterly reports for gasoline and oil dispensed to private vehicles

3. Reduce Out of Service Time: There will be no need for Department vehicle operators to search for gas dispensers, gas books or keys. In most cases there will be no need to enter the station house. A fueling transaction will only require the time it takes the operator to pump the fuel

4. Alleviate The "NO GAS" Problem: The computer will test the inventory of the tank after each dispensing transaction. When the level of fuel reaches a pre-determined reorder point, a message will be displayed at the control center and fuel will be ordered. This will enable us to schedule deliveries before inventories are depleted.

5. Control Fuel Dispensed to Private Vehicles: The system will produce, on a periodic basis, reports for your use, identifying by name and command, the amount of fuel dispensed to authorized private vehicles. This will give you the ability to effectively manage gasoline used in private vehicles.

Annual Operating Systems Comparison

	OPERATIONAL COST		SYSTEM CAPABILITY			SOLVE SYSTEM PROBLEMS			
	Salaries & Materials	Per Gallon	Control	Detect Tank Leakage	Detect Vendor Dishonesty	General Recording Problems	MAJOR PROBLEMS		
							Centralized Cont'l/Resp	Audit Trail	Compile Retrieve & Report Readily
* CURRENT SYSTEM	1,133,762	19¢	Diverse	No	No	No	No	Extremely Difficult	No
** AUTOMATED ON LINE SYSTEM	196,142	03¢	Complete & Centralized	Yes	Yes	Yes	System Demands	Automatic	Yes

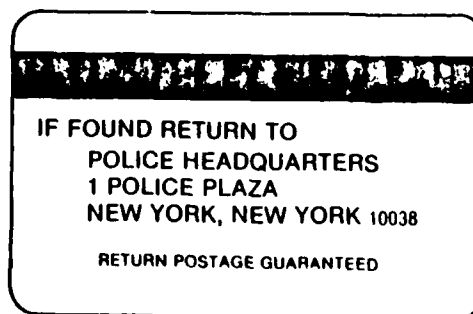
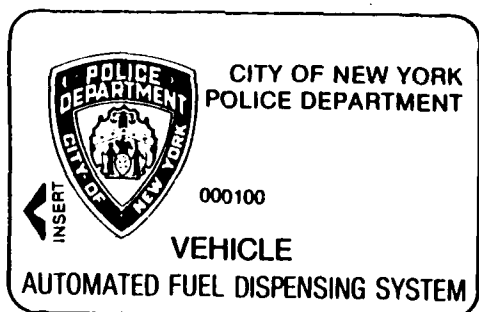
* Salaries based on pay rates in 1977¹

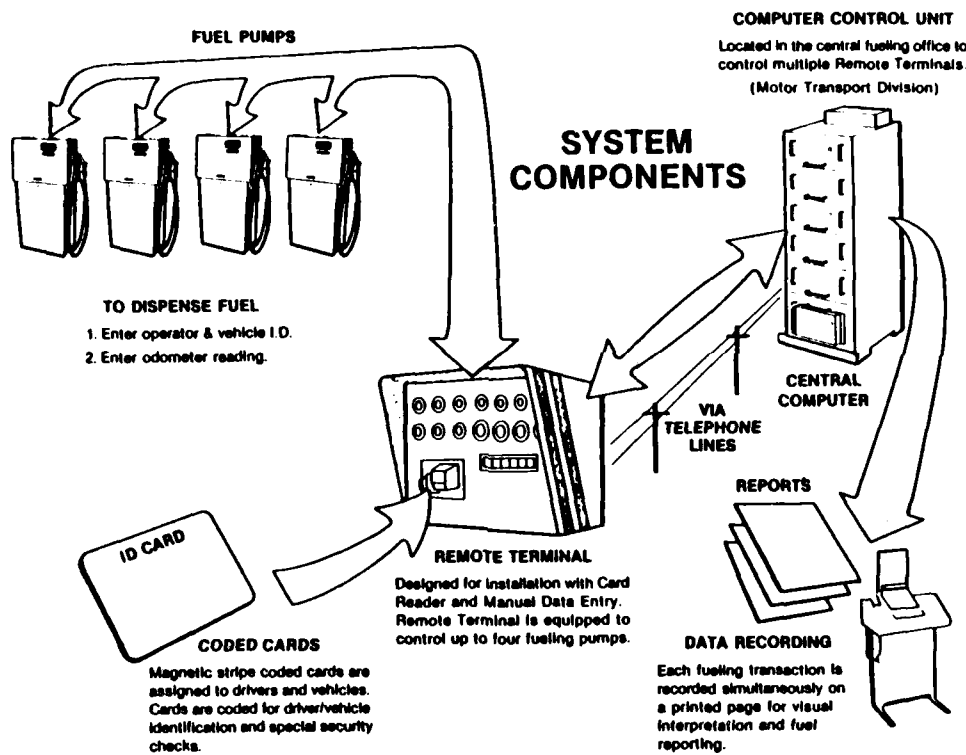
** Initial cost of Automated System \$667,000

¹Salary figures are unaccelerated.



The Automated Fuel Monitoring System





Tasks Required for System Implementation

- Install Telephone Lines
- Firm up Manning Requirements
 - Operation
 - Maintenance
- Develop Card Issue Procedures
- Develop File Build Procedures
- Upgrade MTD Facilities
- Revise Pertinent Orders
- Develop Training Package
- Develop Training Procedures
- Build Computer Files

- Install Remote Terminals
 - Phase I - Staten Island
 - Phase II - Queens
 - Phase III - Bronx
 - Phase IV - Manhattan
 - Phase V - Brooklyn
- Issue Procedures
- Issue Cards
- Train
 - Field Personnel
 - Operations Personnel
 - Maintenance Personnel
- Implement System

Daily Transactions (Report Sample)

Date MMDD	Location	Trans Number	Operator Number	Vehicle Number	CMD	Odometer Reading	Gallons Pumped
01/01	106	00001	0012	2314	106	22,154.6	17.3
01/01	045	00002	0015	1768	044	16,731.0	11.6
01/01	122	00003	0124	0134	TPU	35,976.9	9.3
01/01	062	00004	0134	3173	BMS	62,078.7	21.6
01/01	HW1	00005	0145	2888	HW1	56,986.0	11.6
01/01	022	00006	0152	0018	PCO	3,457.3	14.7
Order Fuel Unlead 020 Current Status 787.2 Gals							
01/01	P/W2	00021	0314	5234	060	17,986.0	20.9
01/01	114	00022	0314	2578	114	62,078.7	13.9
01/01	030	00023	0315	1534	030	42,984.9	12.7
01/01	108	00024	0321	1178	112	35,786.2	11.0
Delivery Unlead 122 1,500 Gals Current Status 2,175 Gals							
01/01	106	00028	0331	2345	102	23,079.0	13.8
01/01	094	00029	0331	1487	094	12,067.4	12.1
No Response 045 *** Failure Mod #2							
01/01	CRS	00032	0335	0631	01H	6,783.6	19.3
01/01	CRS	00033	0345	3278	MTD	23,098.2	23.0
01/01	114	00034	0352	0042	PBQ	5,009.5	11.9
Order Fuel Unlead 020 Current Status 770.2 Gals							
Input : Fuel Ordered for 020							
Input recorded Fuel Ordered for 020..... 0432 hrs							
01/01	067	00039	0432	2765	067	34,906.1	11.1
01/01	090	00040	0432	1197	090	9,076.0	9.3
Pump Shut Down 123 Low Fuel Ordered at 1425 Hrs 12/30 Call Vendor							



What you can do for the Automated Fuel Monitoring System

It is essential to realize that implementing a fuel monitoring system on a Department-wide basis will require your cooperation.

- Records of 25,000 operators and 4,000 vehicles will have to be compiled.
- Each member of the Department will have to be trained.
- Procedures and pertinent orders will have to be revised.
- Actuator cards will have to be issued.

The major responsibility for accomplishing these tasks will lie with us but we will need your support to make this system a success.

TR 6567-II

Appendix I

OPERATIONS MANUAL

I-1/I-2
Reverse Blank

INDEX
of
DIRECT C.P.U. COMMANDS

<u>COMMAND</u>	<u>DEFINITION</u>	<u>NOTES</u>	<u>PAGE</u>
> ART	AUTO RESTART TERMINAL	SEE CAUTIONS (*) (**) 3	3
> IPL	EXECUTE ORDERLY SHUTDOWN	SEE CAUTIONS (*) (**) 1	1
> MID	EXECUTE MIDNIGHT WORK	SEE CAUTIONS (*) (**) 2	2
> MFE	ACCEPT MANUAL FUEL ENTRIES		7, 8
> MFR	ACCEPT MANUAL FUEL RECEIPTS		9
> REQ	ENABLES OPERATOR REQUESTS	SEE INDEX OF REQUESTS 3	3
> SET	PRINT OVERLAY MESSAGES		6
> TPT	PRINT TRANSACTIONS	REQUIRES CLARIFICATION 4, 5	4, 5
> UNS	INHIBIT OVERLAY MESSAGES		6
> INH	SUPPRESS ERROR MESSAGES		2
> INS	ALLOW ERROR MESSAGES TO PRINT		2

(*) SEE IMPORTANT CONSIDERATIONS BEFORE USING
THIS COMMAND.

(**) USE ONLY WITH PROPER AUTHORITY.

THE ABOVE ENTRIES ARE AVAILABLE ONLY AT THE CONSOLE TYPEWRITER.

1.

>IPL EXECUTE ORDERLY SHUTDOWN*

This command directs the C.P.U. to Place All Active Lines OFF-LINE at the first available opportunity. Shut-down will occur when all pending transactions are completed, and the message "OK to IPL" is printed.

This command allows IPL sequence to be executed without disturbing data temporarily stored during transactions. It should be used only for loading new versions of the programs.

IMPORTANT CONSIDERATIONS:

1. Proper authority for use of this command is defined as; Under direction of a member of the E.J. Ward, Inc. programming staff.
2. The > IPL command cannot be cancelled after entry and will execute system shutdown.

EXAMPLE:

>IPL

OK TO IPL

* Command not necessary. System shuts down automatically.

>MID BUILD PERIOD REPORT AND MOVE TRANSACTIONS

Normally, the OCTANE SYSTEM will build a report daily and move transactions from TRNSAC1 to TRNSAC2 weekly. The program to do this comes in at midnight. However, if you should have a power failure and be down during the cutoff period, then you will need this feature to force the report.

>INH SUPPRESS ESI-ISB MESSAGES AND NOT ALLOW THEM
TO PRINT

>INS WILL ALLOW THE PRINTING OF ESI-ISB MESSAGES

>REQ OPERATOR REQUEST

This command enables the operator to display data or status, make system changes, make equipment changes, or print reports. See Index of Operator Requests for the detailed outline of options.

The format is:

>REQ	-----	You Type
READY	-----	Computer Response

*** You respond after 'READY' prints with your particular request.

>ART AUTO RESTART TERMINAL

This command enables the operator to send an AUTO RESTART command to the terminal when it is in difficulty.

The entry is as follows

>ART	-----	You Type
READY	-----	Computer Response
TERM XX	-----	You Type (XX is Terminal Number)

NOTE: If the terminal is OFFLINE, you will also need to put it ONLINE. See Page 18.

> TPT PRINT TRANSACTIONS

This command directs the CPU to send fuel transactions to the remote typewriter as they occur. This printout contains all fueling transactions that are being recorded in the transaction file, and thus is useful for immediate verification of fuel terminal operation and validity of information received from that terminal. It is also useful for monitoring terminal activity.

IMPORTANT CONSIDERATIONS:

1. TPT can be used for only one terminal or all of them. Entering TPT command on a second terminal cancels the last one.
2. Printing transactions on the printer requires additional time; and, thus, slows system response.
3. TPT is conversational and requires some clarification.

Example:

> TPT		You enter.
T--,ALL, or to cancel		Computer response.
T01		You enter.

THE PRINTOUT IS AS FOLLOWS:

325 00 09/30 09:57 C888 V1003 M000062 S 20 T1 F2 P1 G005.0 MPG00.0 PAC DC101 SS536-87-9104

(1)(2) (3) (4) (5) (6) (7)(8)(9)(10)(11)(12) (13)(14) (15)

- 1- SEQUENCE #: TRANSACTIONS ARE FILED CONSECUTIVELY
BEGINNING WITH #2.
- 2- TRANSACTION TYPE: ie..., 0 = NORMAL FUEL TRANSACTION,
20= MASTER CARD.
ODOMETER FLAG: 0 = OK, 1 = LOW ODOM, 2 = HIGH ODOM., 05 = PVT.FUEL
- 3- DATE AND TIME.
- 4- VEHICLE COMMAND.
- 5- VEHICLE #.
- 6- ODOMETER ENTERED BY EMPLOYEE.
- 7- SITE #.
- 8- TANK #.
- 9- FUEL TYPE.
- 10- PUMP #.
- 11- GALLONS PUMPED.
- 12- CALCULATED MILES PER GALLON.
- 13- VEHICLE CLASSIFICATION
- 14- OPERATOR COMMAND
- 15- OPERATOR SOC. SEC. #

6.

>SET PRINT OVERLAY MESSAGES

This command as well as its companion below was added to the system for debug purposes. You may at some time, therefore, be asked to use it by a programmer for diagnostic purposes. Ordinarily, the program is in the inhibited mode and certain messages are disabled.

>UNS INHIBIT OVERLAY MESSAGES

This command will disable the "SET" if it should ever be used.

ACCEPT MANUAL FUEL ENTRIES

THIS COMMAND DIRECTS THE CPU TO ALLOW THE OPERATOR TO ENTER TRANSACTIONS INTO THE TRANSACTION FILE THROUGH THE KEYBOARD. THIS IS NECESSARY WHEN CIRCUMSTANCES HAVE PREVENTED TRANSACTIONS FROM ENTERING THE CPU THRU NORMAL CHANNELS, IE..., WHEN A TERMINAL IS SWITCHED TO MANUAL OR A VEHICLE IS FUELED OUTSIDE OF THE SYSTEM. MANUAL FUEL ENTRIES WILL THEN SHOW ON WEEKLY AND MONTHLY REPORTS AS TRANSACTION TYPE 30, AND BE INCLUDED IN MILES PER GALLON CALCULATIONS. ALSO CUSTOMER TANK PUMP TOTALS AND BALANCES WILL BE ADJUSTED IF ADEQUATE INFORMATION IS ENTERED IN THE CPU, IE..., TERMINAL # AND PUMP #.

IMPORTANT CONSIDERATIONS:

1. The system can do only a minimal verification of the operators entries. It is therefore imperative that the operator verify each entry before commanding the CPU to post the entry as typed.
2. The operator has total control of the printer for input purposes. Should the system require the use of the printer for output, ie..., Error messages, TPT Transactions, the operator must release control of the printer or the CPU will cease to poll until the printer is available for output.
3. Entries may vary in length but not in format. Vehicle # and fuel quantity must be entered for CPU to accept the entry, however, pressing Return Key at the end of any field after fuel quantity posts the transaction with zeroes in all following fields.

8.

NOTE: Field 3 & 4 (Term # & Pump #) must be entered for the CPU to update the customer tank-pump balances.

NOTE: MFE command prints the required heading at the beginning and operates conversationally. It requires operator to acknowledge or cancel each entry, and specify whether or not he wishes to make another entry.

EXAMPLE:

```

> MFE                                     SS
VEH #,FUEL,TERM,PUMP,DATE,TIME,ODOM,OPR #,OPR CMND
XXXX,XXX.X,XX,XX,XX/XX,XX;XX,XXXXXX,XXXXXXXXXX,XXX
ENTRY? Y
1002,015.1,12,01,10/08,13;43,035000,124568888,999
OK? Y
ENTRY? Y
1004,008.5,31,01
OK? Y
ENTRY? Y
1009,017.3,81,01,10/08,17;50
OK? Y
ENTRY? Y
1002,009.5,15,01,10/09,20;03,016402
OK? Y
ENTRY? N

```

>MFR ACCEPT MANUAL FUEL RECEIPTS

This command allows the operator at the computer to enter any fuel receipts that cannot be entered at the terminal for whatever reason. Manual fuel receipts will show on inquiry programs as transaction type 31.

If the receipt area in the tank is not full, and if the receipt does not exceed tank capacity, this receipt, manually entered, will be added to the tank record.

An example follows:

```
>MFR
SITE,TANK,RECEIPT
XXX,XX,XXXX
ENTRY? Y
020,01,0800
ENTRY? N
```

INDEX
of
OPERATOR REQUESTS
for
EQUIPMENT AUTHORIZATION FILE CHANGES

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1. ACQUISITION OF NEW VEHICLE	10
EQP, ACQ, CXXXXX, VXXXX, KXX, MXXX, RXXXXXX, TX, TX, COXXX, CLXXX, GXX	
2. CHANGE EQPT STATUS TO OFF/ON	11
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4. DISPOSE OF VEHICLE	12
EQP, DSP, CXXXXX, VXXXX, SX	
5. EQUIPMENT DATA CHANGES	13
EQP, CHG, CXXXXX, VXXXX, IXX, (NEW DATA)	

** (I Codes for EQP. Changes)

I02, XXXX	CHG. VEHICLE#
I03, XX	CHG. ODOM CODE
I04, XXX	CHG. MILES LIMIT
I05, XXXXXX	CHG. ODOM READING
I06, X	CHG. PRIMARY FUEL TYPE
I07, X	CHG. SECONDARY FUEL TYPE
I08, XXX	CHG. VEHICLE COMMAND
I09, XXX	CHG. VEHICLE CLASS
I10, XX	CHG. CALLONS LIMIT
I11, X	CHG. STATUS

EQUIPMENT AUTHORIZATION FILE CHANGES

EQUIPMENT ACQUISITION

WHEN YOU ACQUIRE A NEW VEHICLE, YOU WILL NEED TO ENTER
THE INFORMATION INTO THE FILE.

> REQ

READY EQP, ACQ, C00009, V1009, K07, M250, R000001, T2, T0, C0999, CLTEY, G23

WHERE: C00009 CARD #
V1009 VEHICLE #
K07 ODOMETER CHECK CODE
CODE = 00 NO ODOMETER CHECK AND NO
CAPTURE
= 01 CAPTURE ONLY
= 03 CAPTURE AND CHECK *
= 07 CAPTURE AND CHECK **
M250 MILES LIMIT
R000001 ODOMETER READING
T2, T0 FUEL TYPES AUTHORIZED FOR THIS VEHICLE
C0999 COMMAND
CLTEX CLASSIFICATION
G23 GALLONS LIMIT

* DO NOT ENABLE PUMP UNTIL ODOMETER IS ENTERED CORRECTLY.

** TAKE ODOMETER READING ON SECOND TRY AND TAG AS HIGH OR
LOW IF IN ERROR.

TO CHECK THE ACQUISITION ENTRY, RUN AN ESR ON THIS CARD #.

> REQ

READY ESR, C00009

EQUIPMENT STATUS REPORT 10/02/80 10:25:14

EQUIP NO.	CARD NO.	EQPT STAT	FUEL TYPE	ODOMR CODE	MILES LIMIT	ODOMETER READING	CLASS	COMND	GALLON LIMIT	1-LOST 3-ACC 2-SHOP 4-CNDM
1009	9	ON	2-	7	250	1	TEY	999	23	

11.

EQUIPMENT AUTHORIZATION FILE CHANGES

CHANGE EQUIPMENT STATUS

> REQ
READY EQP,OFF,C00001,V1001,S2*

THE ABOVE ENTRY PUT VEHICLE 1001 IN AN OFFLINE MODE, I.E., CARD # 1 ASSOCIATED WITH THAT VEHICLE NUMBER CANNOT BE USED AT THE PRESENT TIME. THIS ACTION MIGHT BE NECESSARY IF THE CARD IS LOST, BUT YOU HAVE HOPES OF FINDING IT.

IF THE CARD IS FOUND, THE REVERSING ENTRY IS:

> REQ
READY EQP,ONN,C00001,V1001

CHANGE CARD NUMBER

IF THE ABOVE CARD IS LOST AND WILL NOT BE FOUND, YOU SHOULD ASSIGN THIS VEHICLE A NEW CARD # WITH THE FOLLOWING ENTRY. ASSUME THAT CARD # 12 IS AVAILABLE.

> REQ
READY EQP,NCN,C00001,V1001,N00012

NOW, VEHICLE 1001 HAS A NEW CARD NUMBER ASSOCIATED WITH IT, AND THAT IS CARD # 12.

WE CAN CHECK THE NCN CHANGE BY USING ESR.

*S IS THE STATUS INDICATOR OF WHY IT IS OFFLINE.

EQUIPMENT AUTHORIZATION FILE CHANGES

> REQ
 READY ESR,C00012
 EQUIPMENT STATUS REPORT 10/02/80 10:39:18

EQUIP NO.	CARD NO.	EQPT STAT	FUEL TYPE	ODOMR CODE	MILES LIMIT	ODOMETER READING	CLASS	COMND	GALLON LIMIT	1-LOST 2-SHOP	3-ACC 4-CNDM
1001	12	ON	9-	7	250	99514	ABC	999	15		

AND THE OLD CARD # 1 WILL LOOK LIKE THIS:

> REQ
 READY ESR,C00001
 EQUIPMENT STATUS REPORT 10/02/80 10:39:45

EQUIP NO.	CARD NO.	EQPT STAT	FUEL TYPE	ODOMR CODE	MILES LIMIT	ODOMETER READING	CLASS	COMND	GALLON LIMIT	1-LOST 2-SHOP	3-ACC 4-CNDM
1002	1	OFF	0-	0	0	0		0	0	1	

WHICH INDICATES THAT CARD # 1 IS NO LONGER IN SERVICE AND THE EQUIP. NO. IS ACTUALLY SHOWING THE DATA IT WAS OUT OF SERVICE, OR DISPOSED OF.

DISPOSE OF A VEHICLE

IF THE VEHICLE IS ACTUALLY DISPOSED OF (AS FAR AS THE FUELING SYSTEM IS CONCERNED), THE ENTRY IS:

> REQ
 READY EQP,DSP,C00012,V1001,S4

13.

EQUIPMENT AUTHORIZATION FILE CHANGES

EQUIPMENT DATA CHANGE

THE FOLLOWING ENTRY WILL CAUSE A CHANGE TO BE MADE TO THE EQUIPMENT AUTHORIZATION FILE. PROBABLY THE MOST LIKELY ELEMENT TO CHANGE IN THE FILE RECORD IS THE MILES LIMIT. THEREFORE, THE ENTRY IS AN EXAMPLE OF THIS.

>REQ

READY ESR,C00005

EQUIPMENT STATUS REPORT 10/02/80 10:41:57

EQUIP NO.	CARD NO.	EQPT STAT	FUEL TYPE	ODOMR CODE	MILES LIMIT	ODOMETER READING	CLASS	COMND	GALLON LIMIT	1-LOST	2-SHOP	3-ACC	4-CNDM
1005	5	ON	2-	7	250	111856	JRS	555	25				

NOW, WE WOULD LIKE FOR CARD # 5 TO HAVE A MILES LIMIT OF 300.

>REQ

READY EQP,CHG,C00005,V1005,I04,300

NOW, LET'S CHECK IT.

>REQ

READY ESR,C00005

EQUIPMENT STATUS REPORT 10/02/80 10:42:51

EQUIP NO.	CARD NO.	EQPT STAT	FUEL TYPE	ODOMR CODE	MILES LIMIT	ODOMETER READING	CLASS	COMND	GALLON LIMIT	1-LOST	2-SHOP	3-ACC	4-CNDM
1005	5	ON	2-	7	300	111856	JRS	555	25				

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14.

REPORTS

OPERATOR STATUS REPORT

THIS REPORT GIVES YOU THE CURRENT FILE INFORMATION
ASSOCIATED WITH A PARTICULAR CARD # OR OPERATOR SOC. SEC. #

OSR BY CARD #:

>REQ
READY OSR,C00002
OPERATOR STATUS REPORT 10/02/80 10:47:33

CARD NO.	STAT	OPERATOR NUMBER	CMND	PVF	LAST CHNG	NAME	# OF CARDS
2	ON	234-56-7891	16	YES	0421	CARTER ,D	2

OSR BY SOC. SEC. #:

>REQ
READY OSR,SS234567891
OPERATOR STATUS REPORT 10/02/80 10:48:09

CARD NO.	STAT	OPERATOR NUMBER	CMND	PVF	LAST CHNG	NAME	# OF CARDS
2	ON	234-56-7891	16	YES	0421	CARTER, D	2

REPORTS

EQUIPMENT STATUS REPORT

THIS ONE-LINE REPORT GIVES YOU THE CURRENT FILE INFORMATION ASSOCIATED WITH A PARTICULAR CARD # OR VEHICLE #. SEE "EQP, ACQ" FOR DETAILS OF HOW THESE ITEMS ARE ENTERED INTO THE FILE.

ESR BY CARD #:

```
>REQ
READY      ESR,C0009
EQUIPMENT STATUS REPORT 10/02/80 10:48:41

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER  CLASS  COMND  GALLON  1-LOST 3-ACC
NO.    NO.   STAT  TYPE  CODE  LIMIT  READING   CLASS  COMND  LIMIT  2-SHOP 4-CNDM
1009   9     ON    2-    7     250    1         TEY    999    23
```

ESR BY VEHICLE #:

```
>REQ
READY      ESR,V1009
EQUIPMENT STATUS REPORT 10/02/80 10:49:32

EQUIP  CARD  EQPT  FUEL  ODOMR  MILES  ODOMETER  CLASS  COMND  GALLON  1-LOST 3-ACC
NO.    NO.   STAT  TYPE  CODE  LIMIT  READING   CLASS  COMND  LIMIT  2-SHOP 4-CNDM
1009   9     ON    2-    7     250    1         TEY    999    23
```

PRINT FUEL REPORT

THIS REPORT WILL PRINT CURRENT VALUES OF TANK DATA FOR A PARTICULAR SITE. IT IS MOST FREQUENTLY USED TO DETERMINE WHEN TO ORDER GASOLINE FOR THAT TANK.

```
>REQ
READY      PFR,SITE043
FUEL RECEIPTS 43RD PCT.      SITE 043 10/02/80 10:52:33

TANK  TANK  FUEL  AMOUNT  AMOUNT
NO.   STATUS TYPE  PMPED   RECVD   DATE   TIME
1     ON    UNL    .0      250.0  10/02/80 10:51
CAPAC 1100.0  SHUTDOWN 500.0   ORDERS 0
PRES  989.8  ORDER PT. 650.0 OK
```

REPORTS

16.

STATUS OF TERMINALS

THIS REPORT WILL SHOW IF ANY TERMINALS OR LINES ARE OFFLINE.

>REQ
 READY STT
 --- OFF-LINE UNITS, 10/02/80 10:56:38 ---

LINE 01 02 03 04 05 06 07 08 09 10
 OF ON OF OF OF OF OF OF ON ON

TERM. 2, OFF-LINE
 TERM. 21, OFF-LINE
 TERM. 22, OFF-LINE
 TERM. 31, OFF-LINE
 TERM. 32, OFF-LINE
 TERM. 41, OFF-LINE
 TERM. 42, OFF-LINE
 TERM. 51, OFF-LINE

PRINT PUMP STATUS

THIS REPORT INDICATES PUMPS THAT ARE OFFLINE.

>REQ
 READY PPS
 INACTIVE PUMP REPORT 07/15/79 00:41:47

	TANK NO.	PUMP NO.	PUMP STAT	FUEL TYPE
PUBLIC WORKS	1	1	OFF	UNL

END OF REPORT

REPORTS

REPORT PUMP TOTALS

THIS REPORT IS BUILT AT MIDNIGHT AND SHOWS TOTALS ON
TANKS AND PUMPS FOR THE WHOLE SYSTEM. AN EXAMPLE OF YOUR
REPORT FOLLOWS.

> REQ
READY RPT

FUEL INVENTORY STATUS REPORT PUBLIC WORKS 1 07/15/79 00:00

TANK NO.	PUMP NO.	STAT US	FUEL TYPE	NO. TRAN	AVG. GPT	OPENING BALANCE	AMOUNT RECVD.	AMOUNT PUMPED	ON HAND BALANCE
1	1	ON	UNL	13	16.3			212.5	
1	2	ON	UNL	17	13.9			237.5	
1	--	ON	UNL	30	15.0	2500.0	4000.0	450.0	6050.0
2	1	ON	REG	19	12.7			243.0	
2	2	ON	REG	33	12.6			417.0	
2	--	ON	REG	52	12.6	2500.0	.0	660.0	1840.0
3	1	ON	DSL	110	11.3			1252.0	
3	--	ON	DSL	110	11.3	2560.0	.0	1252.0	1308.0

FUEL INVENTORY STATUS REPORT POLICE GARAGE 2 07/15/79 00:00

TANK NO.	PUMP NO.	STAT US	FUEL TYPE	NO. TRAN	AVG. GPT	OPENING BALANCE	AMOUNT RECVD.	AMOUNT PUMPED	ON HAND BALANCE
1	1	ON	UNL	28	11.2			315.4	
1	--	ON	UNL	28	11.2	3022.0	.0	315.4	2706.6
2	1	ON	PRM	16	12.5			200.0	
2	--	ON	PRM	16	12.5	212.0	200.0	200.0	212.0

FUEL INVENTORY STATUS REPORT GOLF COURSE 3 07/15/79 00:00

TANK NO.	PUMP NO.	STAT US	FUEL TYPE	NO. TRAN	AVG. GPT	OPENING BALANCE	AMOUNT RECVD.	AMOUNT PUMPED	ON HAND BALANCE
1	1	ON	DSL	6	16.0			96.1	
1	--	ON	DSL	6	16.0	326.9	.0	96.1	230.8
2	1	ON	REG	135	10.1			1375.0	
2	--	ON	REG	135	10.1	4250.0	.0	1375.0	2875.0

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I02	CHG. SITE TANK# (1 DIGIT)
I03	CHG. FUEL TYPE (1 DIGIT)
I04	CHG. # OF ORDERS (1 DIGIT)
I05	CHG. TANK CAPACITY (NUMBER X 10) (6 DIGITS)
I06	CHG. SHUTDOWN VALUE (NUMBER X 10) (6 DIGITS)
I07	CHG. OPENING BALANCE (NUMBER X 10) (6 DIGITS)
I09	CHG. REORDER POINT (NUMBER X 10) (6 DIGITS)

SYSTEM CHANGES

PUT LINE ONLINE OR OFFLINE

YOU MAY AT SOME POINT NEED TO PUT AN ENTIRE LINE OFFLINE.
AN EXAMPLE OF HOW YOU WOULD DO THIS FOLLOWS:

```
> REQ  
READY    SYS,OFF,L2
```

THERE WILL BE NO CONFIRMATION PRINTED OUT. WE RECOMMEND
THAT YOU WATCH THE MODEM ATTACHED TO LINE 2. THE LINE IS OFF-
LINE WHEN THE CARRIER DETECT LIGHT STOPS PULSING.
TO PUT THE LINE BACK ONLINE:

```
> REQ  
READY    SYS,ONN,L2
```

HERE AGAIN, YOU SHOULD WATCH THE MODEM FOR LINE 2 AND MAKE SURE
THE CARRIER DETECT LIGHT STARTS PULSING ON AND OFF.

PUT TERMINAL ONLINE OR OFFLINE

TO PUT A TERMINAL OFFLINE FOR MAINTENANCE OR OTHER REASONS:

```
> REQ  
READY    SYS,OFF,TERM01
```

AND TO PUT THE TERMINAL BACK ONLINE:

```
> REQ  
READY    SYS,ONN,TERM01
```

SEE NOTES ON FOLLOWING PAGE.

19.

SYSTEMS CHANGES

NOTE 1. IF THERE IS ONLY ONE TERMINAL ON THIS LINE, YOU MUST ALSO PUT THE LINE ONLINE AFTER PUTTING THE TERMINAL ONLINE.

NOTE 2. THERE WILL BE A MESSAGE ON THE CONSOLE TYPEWRITER SHOWING DATE, TIME, TERMINAL NUMBER AND "POWER RESTART" IF THE TERMINAL WAS TURNED OFF AND BACK ON AT THE UNIT.

PUT MASTER CARD ONLINE OR OFFLINE

YOU MIGHT LOSE A MASTER CARD AND WISH TO PUT THAT NUMBER OFFLINE. AN EXAMPLE FOLLOWS:

>REQ
READY SYS,OFF,C20002

WE HAVE JUST PUT MASTER CARD # 20015 OFFLINE. THEN LATER, IF THE CARD IS FOUND, YOU MAY WANT TO PUT IT BACK ONLINE.

>REQ
READY SYS,ONN,C20002

PUT PVF CARD ONLINE OR OFFLINE

AS IN THE CASE OF THE MASTER CARD A PVF CARD CAN BE PUT OFFLINE IN THE FOLLOWING MANNER:

>REQ
READY SYS,OFF,C30001

THEN LATER IF WE NEED TO PUT THE CARD BACK ONLINE:

>REQ
READY SYS,ONN,C30001

SYSTEM CHANGES

PUT TANK ONLINE OR OFFLINE

A TANK, IN THIS CASE TANK NUMBER 1 AT SITE 120 MAY BE PUT OUT OF SERVICE WITH THE FOLLOWING COMMAND:

>REQ
READY SYS,OFF,SITE120,T01

TO RESTORE THE TANK TO SERVICE:

>REQ
READY SYS,ONN,SITE120,T01

LIKewise, A PARTICULAR PUMP ON THAT TANK, SITE AND FLEET MAY BE PUT OFFLINE:

>REQ
READY SYS,OFF,SITE120,T01,P01

WE HAVE JUST TAKEN PUMP NUMBER 1 ON THAT TANK OUT OF SERVICE. TO RESTORE IT:

>REQ
READY SYS,ONN,SITE120,T01,P01

SYSTEM CHANGES

TANK FILE CHANGES

TO MAKE A CHANGE TO THE TANK FILE:

TWO POSSIBILITIES ARE:

- 107 INDICATES A CHANGE TO OPENING BALANCE - THE
NUMBER IS ENTERED MULTIPLIED BY 10.
I.E. TO CHANGE IT TO 3000, ENTER 030000.
- 109 INDICATES A CHANGE TO REORDER POINT - THE NUMBER
IS ENTERED MULTIPLIED BY 10.
I.E. TO CHANGE IT TO 1000, ENTER 010000.

EXAMPLES ARE:

> REQ
READY SYS,CHG,SITE120,T01,I07,030000

> REQ
READY SYS,CHG,SITE120,T01,I09,010000

FOR ALL OTHER CODES, SEE THE INDEX.

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** (I CODES FOR OPR CHANGES)

I02,XXXXXXXX	CHG. SOC. SEC. #
I03,XXX	CHG. OPERATOR COMMAND
I04,X	CHG. PVC STATUS
I05,X,XXXXXXXX,X	CHG. NAME AND INITIAL
I06,XX	CHG. # OF CARDS ISSUED

22.

OPERATOR FILE CHANGES

ACQUISITION OF NEW OPERATOR

> REQ

READY OPR,ACQ,C01011,SS467666315,C123,IP,NCHAMBERLAIN

WHERE: C01011	IS CARD NO. 1011
SS467666315	IS SOC. SEC. NO.
C123	IS COMMAND 123
NCHAMBERLAIN	IS THE OPERATOR'S NAME
IP	IS THE OPERATOR'S INITIAL

CHANGE OPERATOR STATUS TO OFF/ON/DSP

TO PUT THE OPERATOR CARD OFFLINE, YOU WOULD MAKE
THE FOLLOWING ENTRY.

> REQ

READY OPR,OFF,C01011,SS467666315

THEN IF FOR SOME REASON, CARD NO. 1011 IS NEEDED BACK
IN THE SYSTEM, YOU WOULD MAKE THE REVERSING ENTRY.

> REQ

READY OPR,ONN,C01011,SS467666315

IF THE OPERATOR IS DROPPED FROM THE SYSTEM YOU WOULD
DISPOSE OF THE CARD IN THE FOLLOWING MANNER:

> REQ

READY OPR,DSP,C01011,SS467666315 .

OPERATOR FILE CHANGES

CHANGE CARD NUMBER

IF THE CARD IS LOST, THE FOLLOWING ENTRY WILL NOT ONLY PUT THE OLD CARD # OFFLINE BUT ALSO PUT THE NEW CARD# ONLINE AND MOVE ALL THE INFORMATION FROM THE OLD RECORD TO THE NEW ONE.

>REQ

READY OPR,NCN,C01011,SS467666315,N02590

TO CHECK THIS ENTRY, YOU CAN FIRST DO AN OSR ON CARD # 2590:

>REQ

READY OSR,C02590

OPERATOR STATUS REPORT 10/17/80 16:58:46

CARD NO.	STAT	OPERATOR NUMBER	CMND	PVF	LAST CHNG	NAME	# OF CARDS
2590	ON	467-66-6315	123	NO	10/17	CHAMBERLAIN,P	1

AND THEN DO AN OSR ON CARD # 1011:

>REQ

READY OSR,C01011

OPERATOR STATUS REPORT 10/17/80 16:59:01

CARD NO.	STAT	OPERATOR NUMBER	CMND	PVF	LAST CHNG	NAME	# OF CARDS
1011	OFF	-----	0	NO	10/17	0	

CHANGE AN ELEMENT IN THE OPERATOR FILE

AN EXAMPLE OF A CHANGE TO THE OPERATOR FILE FOLLOWS:

>REQ

READY OPR,CHG,C01011,SS467666315,I03,888

WHERE I03 INDICATES A CHANGE TO THE OPERATOR COMMAND FOR CARD #1011.

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GENERAL DESCRIPTION

CARD ENTRY AT THE TERMINAL

Since you have a 2-card system, a timer will start when you enter the first card (employee card). You then have 15 seconds to enter the second card (vehicle card).

If you get an error on the second card, you will need to start the card entry process all over by entering employee card first.

FUEL RECEIPT AT THE TERMINAL

Fuel receipts are entered at the terminal, using an operator card and a master card for card entry and entering the gallons received (no tenths) right justified in the thumb wheel switches. A "9" is set into the leftmost thumb wheel switch, and finally you press a pump button associated with the tank that received the fuel.

If the fuel receipt is accepted by the octane system, you will see the wait light go out for confirmation. If it is not accepted, you will see one error light - pump error.

GENERAL DESCRIPTION

IPL PROCEDURE

We recommend the following procedure for initial program load or IPL.

1. Press the blue load button on the computer.
2. You should then see the following printout:

*** EVENT DRIVEN EXECUTIVE ***

VOLSER TYPE IODA STATUS
EDX002 PRI. 0003 ONLINE (IPL)
EDX003 SEC. 0003
ASMLIB SEC. 0003
PRI. 0002 UNUSABLE

STORAGE MAP
PART# START SIZE
1 30976 34560
2 65536 57344

SET DATE AND TIME USING COMMAND \$T

\$INITIAL ENDED AT 00:00:02

3. Now enter > \$T
 4. You should then see the following printout:
Date (M.D.Y.): (Here enter month, day,
and year, i.e. 02.21.79)
 5. You will then see:
Time (H.M.) (Here enter hour and
minute, i.e. 08.30)*
- * If it is after noon, be careful to enter time for a 24-hour clock, i.e., 3:30 p.m. is entered as 15.30.

GENERAL DESCRIPTION

6. Next, enter:
 > \$L OCTANE
7. The program will begin to load now and you should see the following printout:

```

    $L OCTANE
OCTANE      4P,16:50:29, LP=7900
NUCLEUS     147P,16:50:32, LP=2000
16:50:35

```

```

CNTLR PREP PASSED, CODE = FFFF
BWI         9P,16:50:37, LP=7000
CNTLR RESET PASSED, CODE = FFFF
16:50:40 START COMPLETED
BW2         9P,16:50:41, LP=8600
COLORIPL    16P,16:50:44, LP=B300

```

```

OCTANE      ENDED AT 16:50:45
COLRUPDT    17P,16:51:11, LP=8F00

```

```

COLORIPL ENDED AT 16:51:13

```

8. When you see the message:
 "Start Completed"
 your program is online, and you should be polling terminals.
9. > \$CP 2
10. >TPT (TO PRINT FUEL TRANSACTIONS)
11. >INH (TO INHIBIT ERROR MESSAGES)

27.

GENERAL DESCRIPTION

MIDNIGHT OPERATION

At midnight, a program comes in to build the report. When this process is complete, a message will be printed on the typewriter:

REPORT READY

If for some reason, the system is down during the cutoff period, there is an emergency procedure to handle this problem. See "MID" on Page 2 for a full description.

The report built during this phase can be accessed by entering:

> REQ

READY RPT

See page 17 for a full description of RPT.

On a weekly basis, (i.e. cutoff dates are 1,8,15, and 22). The transactions are also moved from TRNSAC1 to TRNSAC2.
(current week) (last week)

You will then see a second message on the typewriter:

EOD COMPLT

GENERAL DESCRIPTION

PROCEDURE FOR HANDLING OIL

The use of oil can be registered at the fuel terminal. It is a two-card entry like your regular fueling request, but no pump is enabled. You simply enter the number of quarts used in the right- most thumb wheel switch position before you enter the VEHICLE CARD. Pump button 5 on every terminal is reserved for this purpose. The oil issue is registered at the computer as a transaction, type '10'.

ORDERING FUEL

To inform the computer of fuel orders, an entry is made when the order is called in for that tank at that site.

An example follows:

```
> REQ  
READY   ORD,SITE001,T01
```

indicating that fuel was ordered for TANK 1 at SITE 120.

29.

GENERAL DESCRIPTION

TERMINAL TIMER ROUTINE

Fuel terminals that have gone offline due to some communication problem or terminal malfunction will try to go online every 15 minutes. To abort this attempt to restart, you can put the terminal offline with:

```
>REQ  
READY    SYS,OFF,TERMXX
```

SECURITY CODES

To enable the console typewriter, enter your security code at the Black & White CRT in the computer room. When it exhibits 'READY' enter 'KSR,LOGON' and the console should be enabled.

To disable the same unit, enter 'KSR,LOGOFF'

NOTE: At either Black & White CRT, you must enter your security code each time you request a report.

AD-A119 954

NAVAL UNDERWATER SYSTEMS CENTER NEW LONDON CT NEW LO--ETC F/G 13/11
NEW YORK CITY POLICE DEPARTMENT AUTOMATED FUEL MONITORING SYSTE--ETC (U)
NOV 81 W J MCGRATH, M M MCNAMARA
NUSC-TR-6567-II

UNCLASSIFIED

NL

4 of 4
A
1 2004

END
DATE
FILMED
11 82
DTIC

GENERAL DESCRIPTION

REQUESTING PRINTOUT

All status reports will come back to the unit requesting them, with the exception of 'RPT' which goes to the printer.

The black and white CRTS can request the following reports: PPS,STT,ESR,OSR, and PFR.

All error messages will print on the console typewriter and all TPT lines (fueling transactions) will print on the other typewriter.

All INQUIRY programs will print on the 4973 line printer.

PVC CARD ENTRY AT THE TERMINAL

This is a 2-card entry as are all others. The Employee Card is entered first for verification. The PVC card is then entered with the last 4 digits of your social security # right justified in the thumb wheel switches.

31.

ERROR MESSAGES

The Octane System can generate several different types of error messages. All of the messages are of the form:

HH:MM:SS mmmmmmm LN aaaa TRM bbbb ECB cccc ISB dddd CSSWS eeee ffff gggg

where

HH:MM:SS is the time in hours, minutes and seconds
 mmmmmmm is the message type, which can be either

- a) ESI-ECB
- b) ESI-ISB
- c) LCKERR
- d) LINE#ER
- e) MATCHER
- f) TR LINE
- g) TREPOL1
- h) TREPOL2
- i) TREPOL3
- j) VALIDCK

aaaa is the line number

bbbb is the terminal number

cccc is the ECB code where the 1st two digits = line number
 the 2nd two digits = error code

- a) C0 is device not attached
- b) C1 is device busy
- c) C2 is device busy after reset
- d) C3 is I/O command reject
- e) C5 is interface data check
- f) C6 is I/O controller busy
- g) D0 is I/O controller
- h) D2 is exception
- i) FF is OK

dddd is the ISB word where the 1st two digits = ISB
 the 2nd two digits = device address

- a) 21 is Line 1
- b) 22 is Line 2
- c) 23 is Line 3

eeee ffff gggg is the cycle steal status words (CSSWS)

1. The ESI-ECB message indicates that the ECB return code was not FF or D2.
2. The ESI-ISB message indicates that the ECB return code was D2, but the ISB code was not A0.
3. The LCKERR message indicates that the length of the message received was in error, (i.e. not 4, 8, or 20 bytes long). Lxxxx is at the end of the message and should tell you length received.
4. LINE#ER indicates a bad system error regarding this line.

ERROR MESSAGES cont.

5. MATCHER indicates that the message received was not from the terminal polled.
6. TR LINE indicates that there has been a system error on this line.
7. TREPOL1 indicates that the octane system has taken line 1 OFFLINE.
8. TREPOL2 indicates that the octane system has taken line 2 OFFLINE.
9. TREPOL3 indicates that the octane system has taken line 3 OFFLINE.
10. VALIDCK indicates that Vehicle # for this total was 000000. Vehicle error occurs if a power failure requires IPL of the series/1 while a fueling is in progress. Vehicle # is lost in the power failure and a transaction is built showing VEH # as-1.
11. VEHERR indicates that Vehicle # for this total was 000000. Vehicle error occurs if a power failure requires IPL of the series/1 while a fueling is in progress. Vehicle # is lost in the power failure and a transaction is built showing VEH # as-1.

EXAMPLE:

```
19:15:09 VEHERR LN 0001 TRM 0002 ECB 01D2 ISB A021 CSSWS C037 0040 F000
OUT 0044 00F0 IN F0F2 F9F0 F0F9 F40F F6F9 F6FB F1F0 F0F2 F4F4 F40F
42 0-0 05/07 19:14, V -1, M 750,S01,T1,F1,P2,F 1,G .4,MPG .0
```

ERROR MESSAGES cont.

GENERAL MESSAGES

1. POWER RESTART indicates DC. power to the fuel terminal microprocessor was interrupted & it's program was restarted.
2. AUTO RESTART indicates the fuel terminal microprocessor detected a program error & automatically restarted it's program.
3. TNKPMP FILE ERROR indicates a total was received from a pump not identified in the Series/1 base data.
4. TRMXXXX NO TOTAL CAME IN - PUMP X CARD XXXXX indicates that no total was received on this card after pump was enabled.
5. TRMXXXX INV CARD XXXXX XXXXX IDXX indicates that one of the card numbers listed is invalid.
6. TRMXXXX TXX REORDER is a warning that tank at this terminal has reached REORDER point.
7. TRMXXXX TXX SHUTDOWN indicates that tank at this terminal has reached SHUTDOWN point and the system has taken it offline.
8. TRMXXXX TXX SSXXX-XX-XXXX GXXXX RECV is a message corresponding to a fuel receipt manually input to a terminal. The word 'ERROR' will follow this message if the receipt was not accepted at the Series/1.
9. TRMXXXX TXX PRES XXXX DIP XXXX VAR = XXXX indicates that a dipstick reading has been manually entered to a tank. Printed is the present value in the S/1, the dipstick reading entered in the thumb wheel switches and the variance between the two.
10. TRMXXXX TXX ONLINE INDICATES THAT A fuel receipt has come in and raised the tank level above shutdown.
11. TRMXXXX TXX FUEL RECEIPT - BUFFERS FULL XXXXX GALLONS RECEIVED is a 2-line message that indicates the tank already has 4 receipts and could not accept a fifth one for this period.

EXPLANATION OF BUFFER PRINTOUT

This printout follows Match Error, Validity Check, & Length Check.

The Series/1 communicates with the octane terminals by sending and receiving messages serially, using a frequency shift keying (FSK) technique. The inbound (2125Hz) and outbound (1170Hz) carrier frequencies are shifted above and below the center frequency to represent serial data bits (1's & 0's).

Bytes are 8 bits in length. Each byte transmitted is preceded by one start bit and followed by 2 stop bits for data synchronization. The start bit and stop bits are stripped off by the receiving hardware becoming invisible and thus will not be further mentioned.

The data format within each 8 bit byte is redundant HEX digits. Expressed another way each HEX DIGIT is repeated within the 8 bit byte ie: a four is transmitted (0100 0100). The only exception to this redundancy is the end of transmission character (EOT) which is a HEX 0F (0000 1111).

All outbound communications from the Series/1 consist of 4 bytes including EOT. There are two bytes of terminal address, one byte of control, and the EOT.

Inbound communications vary in length under three different conditions as follows:

1. Skip = 4 bytes. This is a response to a poll when the terminal requires no service. (2 bytes of terminal address, 1 byte of 0's, and EOT).
2. Total = 8 bytes. This is a response to a poll when a transaction is completed. (2 bytes of terminal address, 1 byte identifying pump #, 4 bytes of gallons dispensed including tenths, and EOT).
3. Request = 20 bytes. This is a response to a poll when the terminal request pending flag is set (wait lite ON). (2 bytes of terminal address, 1 byte identifying selection button, 10 bytes of card numbers, 6 bytes of thumbwheel switches, & EOT).

The Series/1 buffers all inbound and outbound messages while processing the information and dumps the contents of the buffers under certain conditions. Interpreting the information in these buffer dumps requires basic understanding of the buffer architecture, program logic flow, and data conversions.

The first Very Important Fact to understand is that in the transmission process the data bits are inverted end over end or FLIPPED. Example: when the terminal transmits a Redundant HEX 1 (0001 0001), it is received backwards (1000 1000) and thus becomes redundant HEX 8. The following is a HEX DIGIT conversion table for easy reference.

HEX DIGIT CONVERSION TABLE

RECEIVED	TRANSMITTED
0 (0000)	(0000) 0
1 (0001)	(1000) 8
2 (0010)	(0100) 4
3 (0011)	(1100) C
4 (0100)	(0010) 2
5 (0101)	(1010) A
6 (0110)	(0110) 6
7 (0111)	(1110) E
8 (1000)	(0001) 1
9 (1001)	(1001) 9
A (1010)	(0101) 5
B (1011)	(1101) D
C (1100)	(0011) 3
D (1101)	(1011) B
E (1110)	(0111) 7
F (1111)	(1111) F

Note EOT= F0 (1111 0000) (0000 1111) 0F

The buffer dump immediately follows the error message and is in the following format. At the left are 4 bytes (8 HEX digits, printed in two groups of 2 bytes each). They are what was in the output buffer when the error occurred. It is important to note that the bytes are redundant HEX and are FLIPPED because the transmission process inverts or flips the bytes. To determine the specific hex digits in this outbound poll, apply the conversion table provided. Also note the 4th byte is F0. This becomes 0F (EOT) when flipped in transmission.

The output and input buffer is separated by two blanks, (4040) on the printout.

The following 20 bytes (40 HEX digits, printed in 10 groups of 2 bytes each), are contents of the input buffer AFTER the error was detected.

Some important points to note are:

1. MATCHER is the first test of the input buffer and if in error NO byte flipping or conversion occurs. Note this on the logic flow diagram.
2. The data in the input buffer is overlayed with each new communication.
3. More than one error may occur in a transmission. The error message printed is the First error detected. See the logic flow diagram.
4. Note on the logic flow diagram that once an error is detected NO further byte flip or conversion occurs.

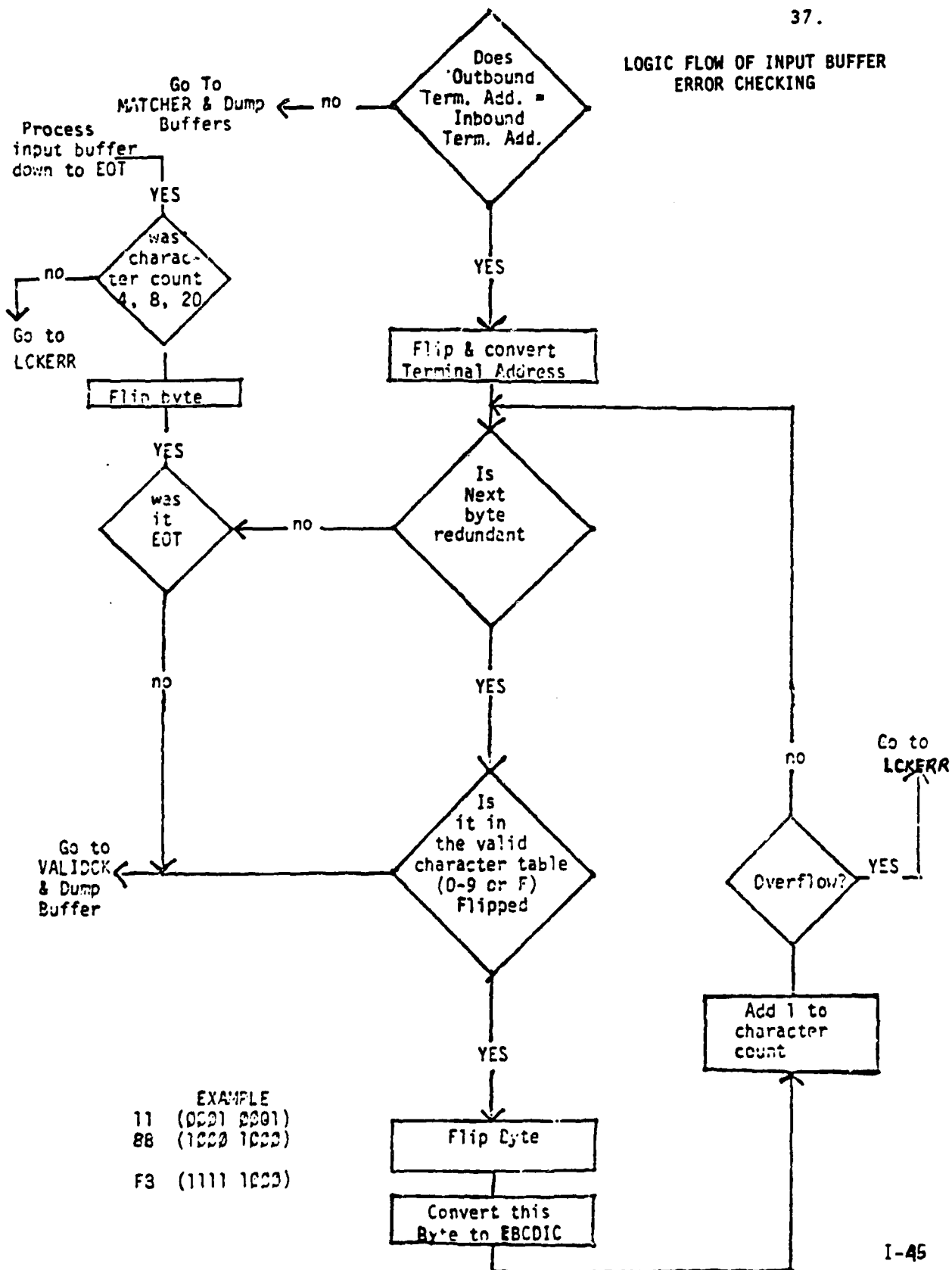
To identify the specific cause of error on MATCHER compare the outbound and inbound terminal address. Remember no conversions have occurred and the table must be applied.

To identify the specific cause of error on VALIDCK, locate the first byte which is not converted to EBCDIC. It will contain the error. Either the HEX digits are not redundant, or the byte will not flip to a valid character (0 - 9 or F). All bytes from that point through EOT are not flipped and must be applied to the table.

To determine if the error occurred on skip, total, or request, locate the EOT character. It will fall in the 4th, 8th, or 20th byte if the message length was not also in error.

LCKERR (length check error) prints the actual byte count at the right of the error message.

37.

LOGIC FLOW OF INPUT BUFFER
ERROR CHECKING

EXAMPLE
 11 (0001 0001)
 88 (1000 1000)
 F3 (1111 1000)

SYSTEM UTILITY COMMANDS

<u>COMMAND</u>	<u>DEFINITION</u>	<u>NOTES</u>
> \$A	PRINT ACTIVE PROGRAMS	
> \$C	CANCEL A PROGRAM	SEE CAUTION(**)
> \$D	DUMP A PROGRAM	
> \$L	LOAD A PROGRAM	
> \$P	PATCH A PROGRAM	SEE CAUTION(**)
> \$T	SET DATE & TIME	
> \$VARYON	SETS DISKETTE STATUS TO ON-LINE	
> \$VARYOFF	SETS DISKETTE STATUS TO OFF-LINE	
> \$W	PRINT DATE AND TIME	
> \$CP2	CHANGE PARTITION 2	
> \$CP1	CHANGE PARTITION 1	

(**) USE ONLY WITH PROPER AUTHORITY.

INDEX
of
FILE INQUIRIES

1. OPERATOR	\$L OPRINQ	<u>PAGE</u> 39
TO LIST:		
CHOICES AVAILABLE	P	
SINGLE RECORD BY CARD NUMBER	1,XXXXX	
RANGE OF RECORDS BY CARD NUMBER	2,XXXXX,XXXXX	
ALL RECORDS	3,	
SINGLE RECORD BY OPERATOR ID	4,XXX-XX-XXXX	
PRIVATE VEH FUELING-BY CMND	5,XXX	
ALL RECORDS IN SPECIFIC COMMAND	6,XXX	
ALL RECORDS WITH STATUS = OFF-LINE	7	
TO END PROGRAM	EN	
2. EQUIPMENT	\$L EQPINQ	40
TO LIST:		
CHOICES AVAILABLE	?	
SINGLE RECORD BY CARD NUMBER	1,XXXX	
RANGE OF RECORDS BY CARD NUMBER	2,XXXX,XXXX	
SINGLE RECORD BY EQUIPMENT NO.	3,XXXX	
ALL EQUIPMENT CARD NUMBERS	4,XXXX	
EQUIPMENT IN COMMAND	5,XXX	
EQUIPMENT IN CLASSIFICATION	6,ABC	
LIST ODOMETER RANGE (BY CLASSIFICATION)	7,XXXXXX,XXXXXX,(ABC) OR ALL	
TO END PROGRAM		
3. TRANSACTIONS	\$L TRINQ	41
TO LIST:		
CHOICES AVAILABLE	?	
ALL TRANSACTIONS	1	
ALL IN GIVEN MONTH	2,XX	
ALL FOR GIVEN DATE	3,XX/XX	
BY TRANSACTION TYPE	4,XX	
BY EQUIPMENT NUMBER	5,XXXX	
BY SITE-LOCATION	6,XXX	
BY FUEL TYPE	7,X	
VEHICLE CLASSIFICATION	8,ABC	
PRIVATE VEH FUELING/COMMAND	9,ABC	
BY OPERATOR IDENT (SOC. SEC.)	10,XXX-XX-XXXX	
TO END PROGRAM		
4. PVF REPORTS	\$L PVF	41
TO LIST AND SUB-TOTAL TRANSACTIONS BY		
OPERATOR IN A COMMAND	XXX	
ALL COMMANDS	\$ ALL PVF	
5. INDEX	\$L INDEX	
TO LIST:		
EQUIPMENT INDEX	EQ	
OPERATOR INDEX	OP	
TO END PROGRAM	EN	

FILE INQUIRY

OPERATOR INQUIRY (OPRINQ)

The operator inquiry program provides a variety of search or selection modes.

1. In all cases the program is started by:
`>$L OPRINQ`
2. The program will ask for your inquiry type:
`INQUIRY TYPE(?)_`

Enter the number for the report you want. If you are not sure of your choice, enter question mark ? and the program will display the options available to you. Make your selection or enter EN to end the program.

3. The program will begin processing your report (list all or list off-line status cards) or it will ask for necessary data (i.e. command # for 'list all in specified command'). In one case, 'list range of card numbers', the program will ask for two numbers - the beginning and the end of the required range.

FILE INQUIRY

EQUIPMENT INQUIRY (EQPINQ)

The equipment inquiry program provides a variety of search or selection modes.

1. In all cases the program is started by:
 > \$L EQPINQ
2. The program will ask for your inquiry type:
 INQUIRY TYPE (?)_
 Enter the number for the report you want. If you are not sure of your choice, enter a question mark, ?, and the program will display available options. Make your selection or enter, EN, to end the program.
3. The program will begin processing your report (list all) or it will ask for necessary data (i.e. class for list all in classification). In one case, list range of odometer readings in command, 3 numbers must be entered.

FILE INQUIRY

TRANSACTION INQUIRY (TRINQ)

The transaction inquiry program will prepare several different types of reports.

1. The program is begun with:
 > \$L TRINQ
 DSI(NAME, VOLUME):
 Where DS is the data set being processed, TRNSAC1 or TRNSAC2.
2. The program will ask for your inquiry type.
3. If additional data is necessary, the program will ask for it.

FILE INQUIRY

PRIVATE VEHICLE FUELING REPORTS (PVF)

1. This program is started by:
 >\$L PVF
 DS1(NAME,VOLUME):
2. The program will ask for command number in form XXX.
3. The report will list individuals in the command with PVF cards together with their transactions and a sub-total of fuel issued to them in this reporting period.
4. If an operator with a PVF card make no transactions in this period, 'no activity in this file' will be printed after his name.
5. Any transactions which cannot be matched with the name in the operator file (i.e. because of an operator delete, etc.) are listed separately with operator identification #.
6. To list private fueling in all commands:
 >\$L ALL PVF
 This program will list private fueling transactions for each command with subtotals for individuals and total for command.

INDEX

Index program provides a listing of either operator card numbers and associated SS# or vehicle card numbers and associated equipment numbers.

1. The program is started by:

\$L INDEX

2. The program will ask:

INDICATE EQUIPMENT INDEX LISTING (EQ)

OPERATOR INDEX LISTING (OP)

OR END PROGRAM (EN)

Make selection or end program.

3. The program will then ask you to list the range of card numbers - the beginning and the end of the required range.

4. The program will then process your report on the high speed printer. The program will also show unassigned cards by a "0", disposed of cards with date, and offline cards with a * next to SS#. Totals of online, offline, disposed, and unassigned cards will appear at end of this report.

\$L INDEX

INDEX 13P,07:39:58, LP= B300

INDICATE EQUIPMENT INDEX LISTING (EQ)

OPERATOR INDEX LISTING (OP)

OR END PROGRAM (EN) OP

LOW NUMBER OF RANGE

HIGH NUMBER OF RANGE

PROCEDURE FOR MOVING TRANSACTIONS TO DISKETTE

Every month, on the 1st, 8th, 15th and 22nd day of that month, transactions must be moved to diskette. The procedure is as follows.

Take a Diskette from IBM box marked with yellow label. The label on the Diskette itself will read TRNDSKT 1922.

Put the Diskette in the computer and close the door - when the door has been closed properly, you will hear a noise.

Go to the System Control KSR and type the following:

>\$VARYON 2

the KSR will type the following message by itself:

SYS034 ONLINE

You then type:

>\$L MOVETRNS

The computer will then move the transactions to the Diskette.

When the transactions have been moved you will see the following message come up on the KSR:

MOVETRNS ENDED AT (whatever time it is)

You then open the door and remove the Diskette from the computer.

Write the date in the right hand corner of the Diskette label and put the used Diskette in the IBM box marked with red label.

>\$VARYON 2
SYS034 ONLINE

>\$L MOVETRNS
MOVETRNS 3P,07:33:39, LP= 7900

MOVETRNS ENDED AT 07:34:26

PROCEDURE FOR LOOKING AT THE TRANSACTIONS ON A USED
DISKETTE

If at a later date, you should want to look at transactions from a previous week, month, etc. the following procedure is to be used:

Go to the IMB box with the red label on it which contains the used Diskettes.

Looking at the dates that are written on the right hand side of the Diskette label, take out the Diskette for the time period you want to look at.

Put the Diskette in the computer & close the door - when the door has been closed properly, you will hear a noise.

Go to the System Control KSR and type the following:

>\$CP 1 (you must be in partition #1)

>\$VARYON 2

The KSR will type the following message by itself:

SYS034 ONLINE

You then type the following:

>\$L TRINQ

The KSR will type the following:

DS1 (NAME, VOLUME):

You then type:

TRNDSKT,SYS034

When the KSR asks you for the search type, you reply with the code that corresponds to the type of information you want i.e., 03= All transactions for a given date.

If you don't know the proper code, when the KSR asks : SEARCH TYPE IS (?)

You type: ?

This will bring up all possible codes.

Transactions will be printed on high speed printer & when it is finished you will see the KSR type:

TRINQ ENDED AT (whatever time it is)

Remove Diskette from computer and put back in IBM box with red label.

Then change the partition back to partition 2 as follows:

>\$CP 2

> \$CP 1
> \$VARYON 2
SYS034 ONLINE
> \$L TRINQ
DS1 (NAME,VOLUME): TRNDSKT,SYS034
TRINQ 50P,11:34:04, LP= 9500

TRANSACTION FILES
SEARCH TYPE IS (?) ?

01 ALL TRANSACTIONS
02 ALL IN GIV MONTH
03 ALL FOR GIV DATE
04 BY TRANSAC. TYPE
05 BY EQUIP. NUMBER
06 BY SITE/LOCATION
07 SPECIF FUEL TYPE
08 V CLASSIFICATION
09 PVF BY COMMAND
10 BY OPR IDENT- SS
EN END PROGRAM
SEARCH TYPE XX 03
RECORD DATE MO/DA 11/12

TRINQ ENDED AT 11:39:39

Appendix J

NYCPD AUTOMATED FUEL SYSTEM
SERVICE GUIDE

N. Y. C. P. D AUTOMATED FUEL SYSTEM SERVICE GUIDE

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TR 6567-II

MARCH 4, 1981

(REV. MAY 7, 1981)

N. Y. P. D. AUTOMATED

FUEL SYSTEM

SERVICE GUIDE

SECTION I

EXPLANATIONS/SPECIFICATIONS:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS
78217
(512) 824-7383

TYPICAL OCTANE CONTROL UNIT INSTALLATION

INSTRUCTIONS

1. LOCATION SELECTION:

The Octane Control Unit (O.C.U.) should be installed in a location near the fuel pumps to be controlled. Perferably, install on the inland with the pumps or at either end of the island protected by guard post. If possible, the O.C.U. should be installed facing South, S.E., or East. This is to provide added protection from the elements.

2. INSTALLATION OF O.C.U.:

Custom Stand. The Stand should bolted to finished surface using 4 - $\frac{1}{2}$ " expanding lead anchors or equivalent. (See custom stand diagram for dimensions.) Secure the O.C.U. to the top of the stand using 2 - $\frac{3}{4}$ " bolts, nuts, & washers provided with stand.

Pipe Stand. See typical pipe stand drawings for floor and wall mounts. For floor mount stand, bolt stand to surface using 4 - $\frac{1}{2}$ " expanding lead anchors or equivalent. Wall mounting will depend on the type of wall the stand is being mounted on. See typical drawings. Secure O.C.U. by screwing it on the pipe stand. If there is not enough room to turn the O.C.U. remove the pipe flange adaptor from the bottom of the O.C.U. and screw it on the pipe stand first, then reattach the O.C.U. to the pipe flange. The pipe stands should be installed so the bottom of the O.C.U. is at least 53" above finished floor.

3. TELEPHONE LINES: (DATA PAIR)

If conditions permit, an aerial run may be made to a pole near the O.C.U. From that point the data pair should be run in steel conduit to the O.C.U. If conduit is required, run a separate $\frac{1}{2}$ " conduit from the O.C.U. to the building where the telephone line terminal block is located. Pull one 2 conductor shielded cable in this conduit for the data pair. Do not run any A.C. lines in this conduit. (See Telephone Specification Sheet for Phone Line Specs.)

4. O.C.U. POWER

Power should be from a separate 115 VAC, 15 AMP circuit breaker. Run one $\frac{1}{2}$ " conduit from O.C.U. to nearest available breaker panel. Pull three #12 THWN or THHN stranded, or approved gas & oil resistant wiring. At breaker panel end, tie one wire (BLK) to 115 VAC, 15 AMP breaker, one wire (WHT) to neutral bar, and one wire (GRN) to separate safety ground rod.

5. O.C.U. WIRING AND CONDUIT SCHEME

Single Nozzle Fuel Dispenser. Run two $\frac{1}{2}$ " conduits to each dispenser from O.C.U. In one conduit pull one 3 conductor shielded cable, in the other pull four #14 THWN or THHN stranded, or approved gas & oil resistant wires.

Dual Nozzle Fuel Dispenser. Run two $\frac{3}{4}$ " conduits to each dispenser from O.C.U. In one conduit pull two 3 conductor shielded cables, in the other pull eight #14 THWN or THHN stranded, or approved gas & oil resistant wires. Under certain conditions, AC wiring and shielded cable may be pulled in the same conduit. Conduit size may need to be increased. This wiring requirement is for O.C.U. control circuits only, and has nothing to do with the existing dispenser A.C. wiring requirement.

6. O.C.U. CONTROL WIRING CONNECTIONS:

See diagram on mother board connections. The wires are connected to the mother board by using $\frac{1}{4}$ " push-on, solderless spade connectors.

- * 3-CONDUCTOR SHIELDED CABLE. There should be a shielded cable used for each pump controlled. (1 through 5). In a standard color coded cable there is a red, white and black wire. In the O.C.U. attach the red wire to hook, white wire to pulse, and black wire to common. At the dispenser, connect the white wire to the pulser, red wire to the normally closed contact of the load complete relay, and the black wire to common of both the pulser and load complete relay.

Some pulsers are polarity sensitive. When using Unidynamic pulsers, the purple wires should be connected to positive D.C. voltage from the O.C.U. (white wire) and the orange and/or brown to negative D.C. voltage from the O.C.U. (black wire). The shields on all cables are to be above ground. In the O.C.U. tie all shields together and attach them to the common test terminal on the mother board. At the pump end cut the shields off even with the cable outer jacket and tape back to prevent any possibility of it coming in contact with ground.

- * Pump Run Circuit. The pump run circuit on the O.C.U. mother board is enabled when the pump selector switch is in BYPASS, or by card access when the pump selector switch is in auto. The control wiring to the pump, should be connected to the desired pump run circuit 1 - 5 on the mother board. This control line in most instances should be tied to a set of N.O. contacts (switch or relay) that will close when the dispenser off/on switch is turned on and the register reset function is complete.

From the other side of the N.O. contacts, the control line should go to either an electric solenoid valve or a power control relay and back to the O.C.U. Neutral (Return). When these N.O. contacts are made they should permit the pump run potential to enable one of these devices.

TELEPHONE LINE SPECIFICATIONS

Private Line Channels for use as Octane System data circuits.

Communication circuits shall be split bridge multipoint 3002 unconditioned voice grade channels providing 2 wire interface with effective 2 wire facilities engineered for a Net Loss no greater than 16dB at 1000 Hz, suitable for use as one half duplex 300 BAUD data channels.

Frequency response - shall be 300-3000 Hz with Net gain of 3 dB to Net Loss of 12dB with respect to 1000 Hz test signal.

Frequency shift - shall not exceed ± 5 Hz.

Envelope delay distortion- shall be less than 1750 microseconds for 800 to 2600 Hz.

Impulse Noise- shall not exceed 15 counts in 15 minutes at a threshold of 6 dB below a -13 dB 1000 Hz test signal.

Phase Jitter - shall not exceed 10 degrees peak to peak.

All circuit parameters and design shall be equal to Southwestern Bell Telephone Company Type 422 Service.

Octane Control Unit Major Component Description:INTERFACE & POWER SUPPLY BOARD.

Purpose is to supply the DC potentials required for terminal operation & to interface the sense, control & display components on the terminal door with the terminal microprocessor circuitry, and to enable pump run circuits.

UART-MODEM

Purpose is to establish communications with the Series One computer under the direction of the microprocessor.

RANDOM ACCESS MEMORY BOARD (RAM)

It provides storage area for fueling transactions. It also provides the microprocessor with a scratch pad work area.

READ ONLY MEMORY (ROM)

Purpose is to provide hardware program control of microprocessor.

CENTRAL PROCESSOR UNIT (CPU)

Purpose is to control all terminal hardware under program supervision.

THUMBWHEEL SWITCH ASSEMBLY

Purpose is to provide a data input to the microprocessor. These inputs can be, but not limited to the following types: odometer reading, Vehicle number or Dip stick reading.

MOTHER BOARD

Purpose is to provide interconnection of microprocessor circuitry, pump enable By-Pass control, AC to DC supply with off/on switch & battery charge. It also provides dispenser sense & control wiring interface.

MAGNETIC STRIPE CARD READER

Purpose is to read the encoded information found on the magnetic striped card upon its removal.

PUSH BUTTON PUMP SELECT

Purpose is to allow the selection of dispenser.

PUMP ENABLE LIGHT

Purpose is to indicate which pump has been enabled.

SYSTEM ON LIGHT

Indicates O.C.U. is powered on when lighted.

COMM. FAIL LIGHT

Indicates O.C.U. is in an off-line condition when lighted.

ERROR LIGHTS

Self explanatory.

O.C.U. Terminal Circuit Operation

The microprocessor's reader senses a card in its reader that is being removed. This action causes the reader to read the encoded information and transfers this data to the RAM board via logic circuits of the Interface/Power board. Temporary storage is provided in RAM pending error checking and card information processing.

Assuming acceptance of this data (no card error), when the microprocessor senses a pump enable push button request, the wait light is turned on via the Interface/ Power board. It also builds a request message to be sent to the Series One computer. This request message is sent to the Series-One via the UART-MODEM board (Serial transfer, byte by byte under the control of the CPU board)

As the Series-One sees the request, it places it in a temporary validation input buffer. At this time validation of applicable data such as card type, on-line/off-line status, odom check, tank & pump status, fuel status etc. are checked. If an error is detected, the request is denied and an error is sent back to the O.C.U. terminal. If the request is valid, it is transferred to a specific pump buffer, and a control byte is sent back to the O.C.U. terminal. If it was an operators card, the control byte would be an acknowledgment of receipt of request. This would turn out the wait light and clear the data buffer in RAM for the next card request. If it was a vehicle card, the control bytes would be an acknowledgment of receipt of request. This would turn out the wait light, clear area in RAM, and enable the requested pump-run circuit. It would also store the number of gallons allowed for this particular card in a designated area in RAM.

When the microprocessor senses the common tie being removed from its associated hook sensing circuit it wakes up the pulse sense circuit. The pulse circuit transfers any incoming 1/10 gallon pulses to the RAM board where they are being constantly added up & compared with total gallons allowed by the Series-One for this particular vehicle card. When the gallons limit is reached the pump run potential will drop out. With the dispenser nozzle hung up properly the hook sense circuit will cause the microprocessor to build a TOTAL message which is sent to the Series-One. The Series One sends the O.C.U. an acknowledge at this point. This TOTAL message is married-up with the vehicle card request in the pump buffer. Once this total reaches the specific pump buffer a transaction is built and sent to disk as well as the TPT printer, if TPT report has been requested. It also clears the specific pump buffer to all zeros.

Another way a TOTAL can be built & sent to the Series-One is by at least 1/10 gallon of fuel being sensed by the pulse input circuit & the dispenser nozzle being hung up properly. This action causes the hook circuit to acknowledge a total.

ADDRESSING THE INTF/PWR BOARD

(0-9)				(0-9)			
1	2	3	4	5	6	7	8
VIII	IV	II	I	VIII	IV	II	I
<u>2</u>				<u>3</u>			
<u>3</u>				<u>7 & 8</u>			

Dip Switch Numbered 1-8

Enter Term.

Address

Enter Dip Switches
Placed On

EXAMPLE: Addressing : (Terminal 23, Push DIP switches 3, 7, & 8)

Terminal 9 5, Push DIP switches 1 & 4 and 6 & 8

Terminal 07, Push DIP switches 6, 7 & 8 only.

NOTE: DIP switch addressing is done in two $\frac{1}{2}$ bytes. The first $\frac{1}{2}$ byte is reserved for the most significant digit (zero thru nine) and the other $\frac{1}{2}$ byte is for the least significant digit, (zero thru nine).

COMMON ERROR MESSAGES

AUTO RESTART

Indicates the O.C.U. terminal detected an internal program error and automatically restarted its program.

This type of error may be accompanied by one or two other error messages. TNKPMP and/or VEHERR. If this occurs, especially if a VEHERR follows a valid transaction shown on TPT printout, no action should be taken unless it continues to happen frequently. If it does, first try replacing the RAM board. If problem persists insure wiring integrity meets standards set forth in the section covering INSTALLATION OF O.C.U.

INVALID CARD

Indicates the card number, its associated vehicle number, or its system identification number is not valid within this fuel systems software.

The most common cause of this occurring is person losing card, reporting it lost & later finding it and trying to use it. When reported lost it was taken-off line thereby becoming invalid.

Other problems causing an INVALID CARD are rare, but maybe isolated by following step by step procedure as shown below. Under no circumstances should a wholesale change-out of boards ever be attempted.

Defective Component:

- a. INTF/PWR
- b. RAM
- c. Card Reader

LCKERR

Indicates that the length of the message received by the Series One was in error.

These message length errors are rare but in some cases are caused by a "DIRTY" telephone line. If the telephone line has been checked out & determined to meet prescribed specification, yet errors persist then an O.C.U. circuit board may be at fault. Either the ROM or CPU board may be guilty of such error messages.

MATCHERR

Indicates the message received by the Series One did not match the O.C.U. terminal polled.

Matcher-line errors are the most common errors associated with a "DIRTY" telephone line. An O.C.U. terminal that has a constant carrier on the line will cause a steady stream of MATCHERR messages, to the point of taking every O.C.U. terminal on-line off-line. See "Comm. Fail" trouble Symptom for corrective action.

If the phone line has been checked out & determined to meet prescribed specification then try to determine the guilty O.C.U. terminal. A step by step procedure, of interrelated circuit board replacement, should be followed in order listed below:

- a. UART-MODEM
- b. INFR/PWR
- c. CPU
- d. ROM

NO TOTAL CAME IN

Indicates no total was received by the Series One (pump buffer) after this card enabled this pump at this terminal.

A common cause of an occasional no total error message is where a person enables a pump and waits longer than one minute to use it. A string of NO TOTALS against the same pump indicates a problem associated with just that dispenser. An example of this would be as follows:

- a. No power reaching pump motor
- b. Fuel tank empty
- c. Clogged fuel strainer.
- d. Pump lost its prime.

Note: Try in By-Pass to see if fuel can be dispensed.

Other problems that would cause a no total can be found in this guide under item 3 of Dispenser/Relay J-Box Related Problems.

Explanation of why a NO TOTAL CAME IN error message is created will be discussed next. Prior to reading this explanation make sure you have first read the section on the O.C.U. terminal Circuit Operation.

After a push button request has been validated & sent to its respected pump buffer in the Series One, it awaits a total message to complete the transaction. If there is never a total message sent by the terminal to the Series One, the request sits in the pump buffer until another card request (not same card as before) hits this specific pump buffer. At this time the original request is transferred out to make room for the new request message associated with the same push button & terminal. The Series One software notes it is an incomplete transaction lacking a total gallons fill & makes note of that on the Main console of the TTY as a NO TOTAL CAME IN.

TNKPMP FILE ERROR

Indicates a total was received by the Series One from a pump not identified in its Base Data file.

Follow logical steps below to isolate cause of error messages:

Q1 - Is more than one TNKPMP FILE ERROR being printed on main console?

YES

NO

Take no action at this time as it may have been a fluke.

--Q2 - Were there any Auto Restarts preceeding printouts?

YES

NO

Take no action as AUTO RESTART may very well have been guilty of causing them.

Perform a PFR against guilty site to confirm tank assignment is correct. Go to Q3.

Q3 - Did the PFR indicate the correct information?

YES

NO

--Contact E.J. WARD D.P. department.

-----Replace the RAM board in O.C.U. terminal.

VALIDCK

Indicates that the message received by the Series One was not redundant as all message should be.

Service is not required unless these error messages persist. If this is the case, go to the offending O.C.U. terminal & start replacing the following boards in the order given.

NOTE: Circuit boards are very interelated and the order shown is from most likely to least likely.

- a. ROM
- b. CPU
- c. UART-MODEM

VEHERR

Indicates that a total was sent to the Series One and found all zeros (no request) in the specific pump buffer. Because of this, it will print a vehicle number of a -1 (v -1) showing total number of gallons.

A good example of how a VEHERR could occur is by the phone line getting a "HIT" on it at the very time an acknowledge is being sent to an O.C.U. terminal for a total that had just been sent. The O.C.U. terminal never seeing this acknowledge sends the total message once again. By this time, the first total message had gone to the specifically assigned pump buffer & completed the transaction, returning the buffer to all zeros. The second (identical) total now hits the same buffer & finds no request message, only zeros. This will in turn create a VEHERR.

Other than a "DIRTY" phone line a UART-MODEM board can cause this error message. Take no action unless the error messages persist.

* A VEHERR will subtract gallons from tank balance for each time it is printed.

Note: ESI= Error Sense Indication

ECB= Event Control Block

ISB= Interrupt Status Byte

* See Commu Fail sections concerning ESI-ISB error messages.

TR 6567-II

MARCH 4, 1981
(REV. MAY 7, 1981)

N. Y. P. D. AUTOMATED
FUEL SYSTEM
SERVICE GUIDE

SECTION II

TOOLS/PARTS/TESTEQUIPMENT:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS 78217
(512) 824-7383

SPECIAL TOOLS & TEST EQUIPMENT

TAMPER PROOF SCREW DRIVER

16 PIN CONNECTOR PLIERS

AUDIO DETECTOR

Note: All other tools are common tools such as screw drivers, pliers, socket wrench with set small sockets, soldering iron etc.

STORAGE, HANDLING & SHIPPING

MAJOR COMPONENTS

STORAGE:

Try to keep circuit boards & other major components in a cool, dry, dust free environment free of static or magnetic fields. To further protect spare boards it is highly recommended to put them in static free bags or wrap in tin foil. Do not stack boards on top of each other.

HANDLING:

When handling circuit boards make sure you do not induce a static charge on the component you are handling or the terminal you are preparing to exchange it in. Discharge your body of static electricity prior to replacing circuit boards.

SHIPPING:

Insure each component is wrapped in some type of packing material that will protect it from any rough handling in shipment.

RECOMMENDED SPARE PARTS LIST FOR OCTANE CONTROL SYSTEM (NYPD)

Southco Fastener #27-10-301-10
 Digiswitch Assby. w diodes #9015-6
 Card Reader AMP MODEL 801
 Pushbutton Seal CH-SW-1AN-3030
 Battery #PS-1245-1
 LED, Green #MV 5252/PB Assby.
 LED, Red #MV 5752/PB Assby.
 LED, Yellow #MV 5352/PB Assby.
 PC Board, Interface/Power Supply #100146
 PC Board, UART Modem 300 Baud w/o OPT1 #100137
 PC Board, CPU #100111
 PC Board, RAM #100086-FT 1K
 PC Board, ROM #100159 (L1-94A)
 Mother Board, #100138
 MIDTEX 156 Relay
 G.E. CA-32 Relay
 UNIDYNAMIC 5000-1 PULSER
 TELEMECANIQUE MECHANICAL SWITCH

MARCH 4, 1981
(REV. May 7, 1981)

N. Y. P. D. AUTOMATED

FUEL SYSTEM

SERVICE GUIDE

SECTION III

REPLACING/ADJUSTING MAJOR COMPONENTS:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS
78217
(512) 824-7383

REPLACING MAJOR O.C.U. COMPONENTS

- BATTERY The battery can be replaced by removing the inverted L bracket that holds it in place & disconnecting the two battery leads.
- CARD READER The card reader can be replaced by first taking the ribbon connectors off & removing the +12VDC lead from the Mother board. Unscrew nuts that hold reader to door and remove reader.
- PUSH BUTTONS The Push button seals can be replaced by holding inside housing while turning seal counter clockwise.
- T/W SW. ASSY. The Thumb Wheel Switch Assembly can be replaced by first disconnecting the associated ribbon cable connector from the Interface/Power board & desoldering the four color coded wires at one end of the assembly. (Be sure to take note of colors & tie points). Unscrew nuts that hold assembly in place.
- DOOR LIGHTS The replacement of a terminal door light requires removing connecting wires & pulling light assembly towards you. It will snap out freeing itself. Observe polarity flat spot on L.E.D. bulb, it indicates negative polarity.
- MOTHER BOARDS The replacement of a mother board requires wires & cables to first be moved from all tie points & the circuit boards taken out. Take the By-pass/Auto switch loose from base of cabinet. Remove screws from two electronic components if mounted to cabinet base. Unscrew four nuts holding back panel in place. To install just reverse the above procedure.

Adjustment Instructions1. UART/Modem carrier level:

- a. Temporarily disconnect phone line and connect a 590 ohm resistor to tie points DR/DT on the mother board.
- b. Using a Simpson 260 (or equivalent) meter on the 2.5. volt AC scale connect leads across the 590 ohm resistor.
- c. See UART/Modem board and temporarily jumper from right side of R-6 to inside (Top) end of R-3. This should bring up the TX. Carrier.
- d. Observe db scale reading on meter and adjust the "Output Adjust" R-16 control for a reading of odbm.
- e. Turn power off to terminal to restore carrier off condition on UART/Modem. Reconnect phone line to DT/DR and power on terminal.

2. 12 Volt Power Supplies:

- a. Using a DC volt meter on 50 VDC scale, connect positive lead to +12V test point and negative lead to common.
- b. Meter should read +12 to +14 VDC.
- c. Switch leads and measure at the -12VDC test point.
- d. Meter should read -12 to -16 VDC.
- e. Remove battery fuse temporarily and measure charge voltage to battery between fuse holder & common. Requirement: +14 to +16 VDC.
- f. Measure battery voltage with fuse out. Requirement: +12 VDC to +14 VDC.
- g. Install battery fuse. Measure battery voltage under load with AC power to terminal off at CKT. breaker or safety switch. Requirement under load: Battery voltage should be +12 to

+13.5 volts after 20 minutes of operation. If it indicates under voltage, battery may be in discharged condition or defective. Investigate & take appropriate action to correct condition.

3. Factory Preset +5VDC Power Supply:

- a. Using a Simpson 260 (or equivalent, 20K ohm/Vmeter) 10VDC scale, connect positive lead to test point marked +5VDC on mother board and negative lead to test point marked common.
- b. Meter should be of a known 1% accuracy. The required reading should be 5.1 to 5.2 VDC. If the reading is outside of this range, but within the range of 4 to 7 volts, adjust the +5V adjust control on the interface/Power supply board (left side) for a meter reading of 5.15 volts. If the meter reading is not within the 4 to 7 volt range, the interface and power supply board is defective. Remove & replace interface and power supply board.

REPLACING RELAY (S) IN RELAY J-BOX

The small green top relay is used for sensing on-hook/off-hook condition. It is a plug in type relay that can be replaced by pulling (while rocking) it straight out from its base. A new relay can then easily be put in its place.

The large black relay is used to control power to a pump motor or electric solenoid valve. The wires must first be removed from it & placed to one side. It would be best to mark them for pin connection at this time. Removing the relay requires loosening one screw & pulling it straight out.

REPLACING A UNIDYNAMIC 5000-1 PULSER UNIT.

- STEP #1 Disconnect wires in explosion proof box observing color combinations.
- STEP #2 With large channel locks or a pipe wrench turn barrier assembly counter clockwire until it is free of explosion proof box.
- STEP #3 Remove register shield, then screw holding pulser sensing assembly until it can be removed. (Note the way it was installed with brass wheel meshed with the 1/10 gallon wheel.)
- STEP #4 To install a new unit, reverse the above steps.

DISPENSER MECHANICAL SWITCH
ADJUSTMENT OR REPLACEMENT

The mechanical switch found in the dispensers (so equipped) are to sense the on-hook/off-hook condition of the dispenser. This status is accomplished by mechanically connecting the arm of the switch to the rod which turns on the pump motor after the register head has undergone a reset.

If this switch is out of adjustment one of two different conditions will result.

CONDITION 1: Switch not closing normally open contacts when register head has been reset & pump-on lever has been activated.

RESULT: Pump motor will not come on in bypass or auto.

CONDITION 2: Switch not deactivating after pump motor lever is returned to off position.

RESULT: In bypass no apparent problem, in "AUTO" customers get immediate pump error light (no wait light) when push button is depressed.

Optimum adjustment can best be made by monitoring the tie points Hook/Common on mother board with a DC voltmeter set to read 5 VDC. An on-hook condition of dispenser should result in a 0VDC reading. An off-hook condition should result in a + 5 VDC reading.

The mechanical switch should be adjusted so that 3/4 of the way through the condition of lever the + 5VDC will occur. It should drop out at bottom end approx. 1/4 way before pump lever is returned to full off position.

MARCH 4, 1981
(REV. May 7, 1981)

N. Y. P. D. AUTOMATED

FUEL SYSTEM

SERVICE GUIDE

SECTION IV

MAINTENANCE OF SYSTEM:

E.J. WARD, INC.
8801 TRADEWAY
SAN ANTONIO, TEXAS 78217
(512) 824-7383

PREVENTIVE MAINTENANCE

There is no time schedule for performing preventive maintenance. It should be performed at anytime a service technician is required to be on site.

The following items should be checked:

- Push button seals for cracks. Replace any that are cracked.
- Boards & ribbon cable connectors properly seated. Reset any that appear to have become partially unseated.
- Thumb Wheel Switch Assembly digit units (1-6) turn freely from 0 thru 9.
Replace entire assembly if any one unit fails to turn freely.
- Door Face should be wiped clean, especially in area of operating instructions.
- Card Reader "Clean-Head" card should be run through reader several times.
- Pin cleaning of all boards with a standard pencil eraser.

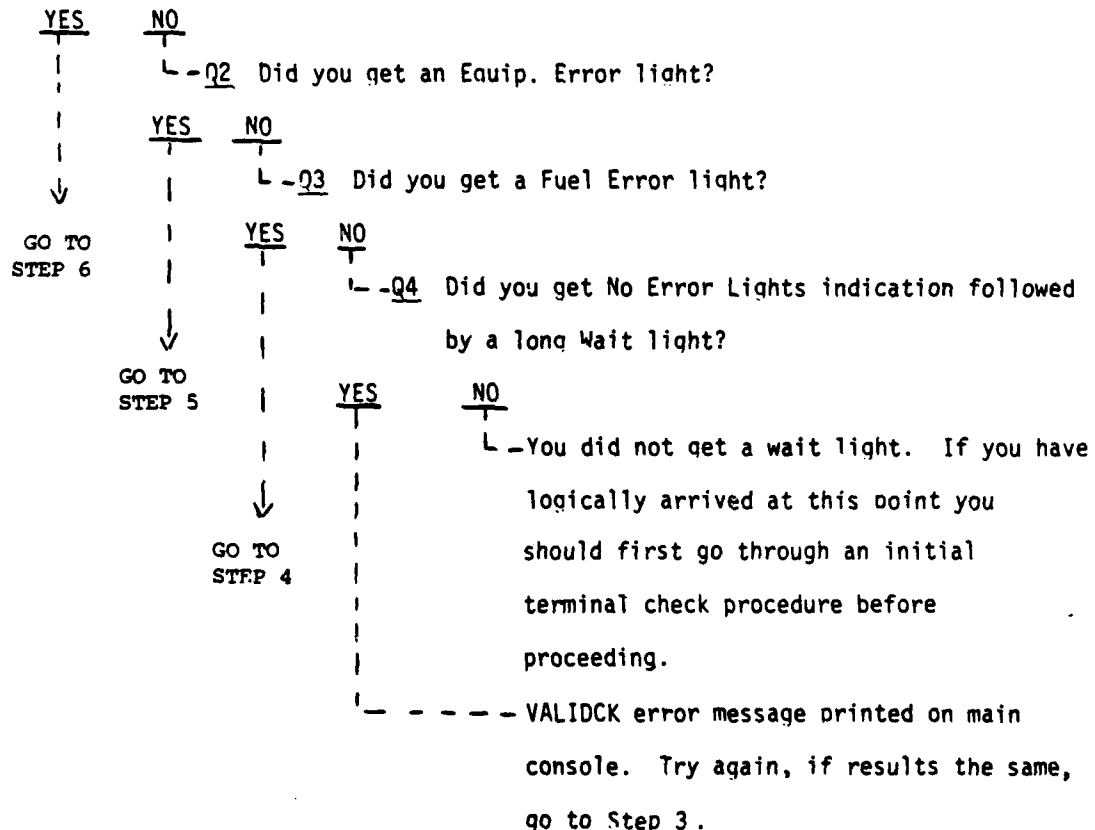
TEST CARD PROCEDURE

STEP #1 Insert test card in reader, remove rapidly.

STEP #2 Depress appropriate push button.

NOTE: Providing you were in miles limit (Thumb Wheel Switches) from last time you used test cards an Odom error should not occur following the wait light. If an Odom error does occur, simply try again without changing setting of Thumb Wheel Switches.

Q1 Did you get a Pump Enable light?



STEP 3 Replace components in following order to clear malfunction. Check between boards.

- a. ROM
- b. CPU
- c. UART-MODEM

STEP 4 Go to Trouble Symptom list under Fuel Error
to isolate malfunction.

STEP 5 Go to Trouble Symptom list under Equip. Error
to isolate malfunction.

STEP 6 Go enable pump & dispense gasoline. Test
card should turn pump off at 1 gallon.

Q5 - Did this occur?

YES NO

| STEP 7 Go to Dispenser/Relay J-Box Related Problem
| section to isolate malfunction.

| - STEP 8 Re-enable the pump & dispense 2 or 3 tenths
| of a gallon of gasoline.

STEP 9 Shut pump off.

STEP 10 Take pump back off-hook.

Q6 - Did pump motor come back on allowing you to
pump more fuel?

YES

NO

| - System operational, no further action
| required.

| - STEP 11 Check small Midtex relay in Relay J-Box,
| it may be staying energized.

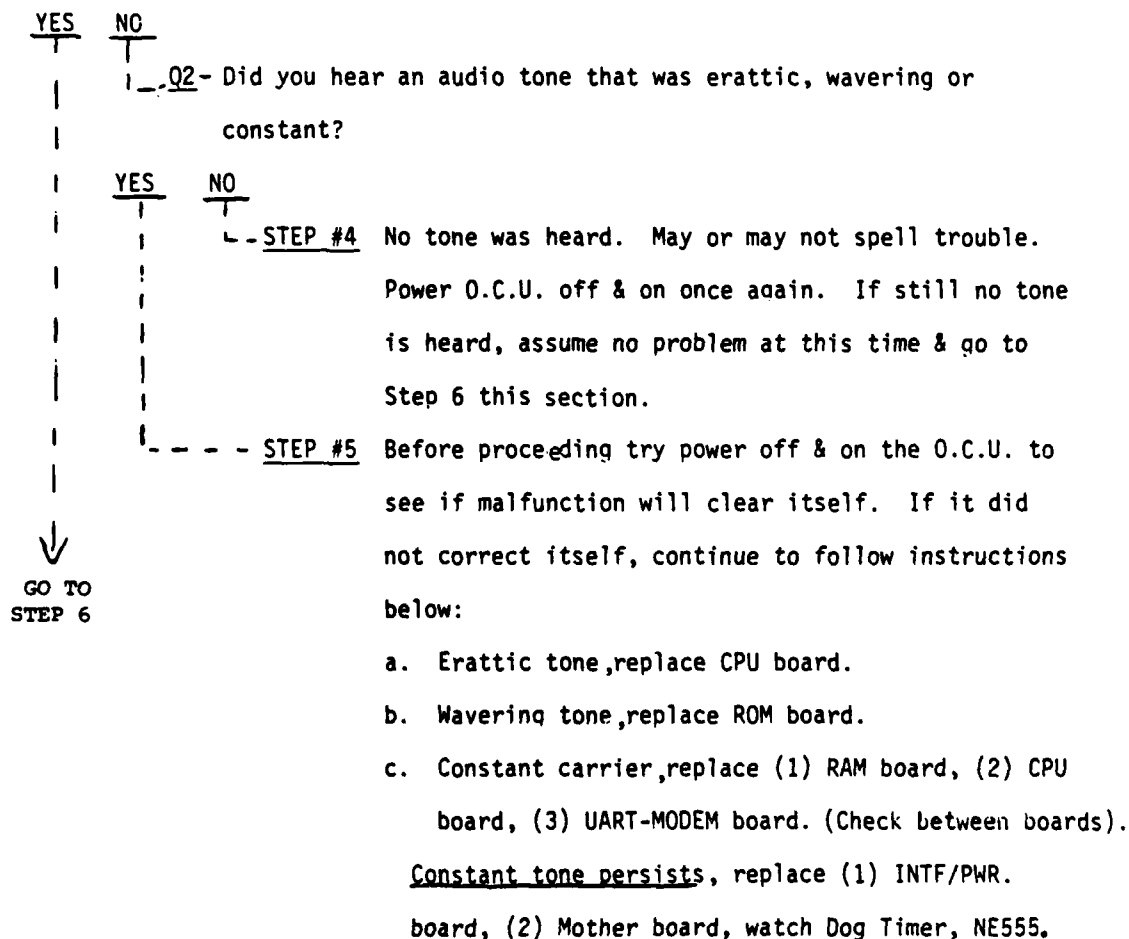
*Investigate & repair.

STEP #1 Power off O.C.U. terminal.

STEP #2 Connect signal tracer (audio detector) to tie points on Mother board marked DT & DR. (Turn on signal tracer)

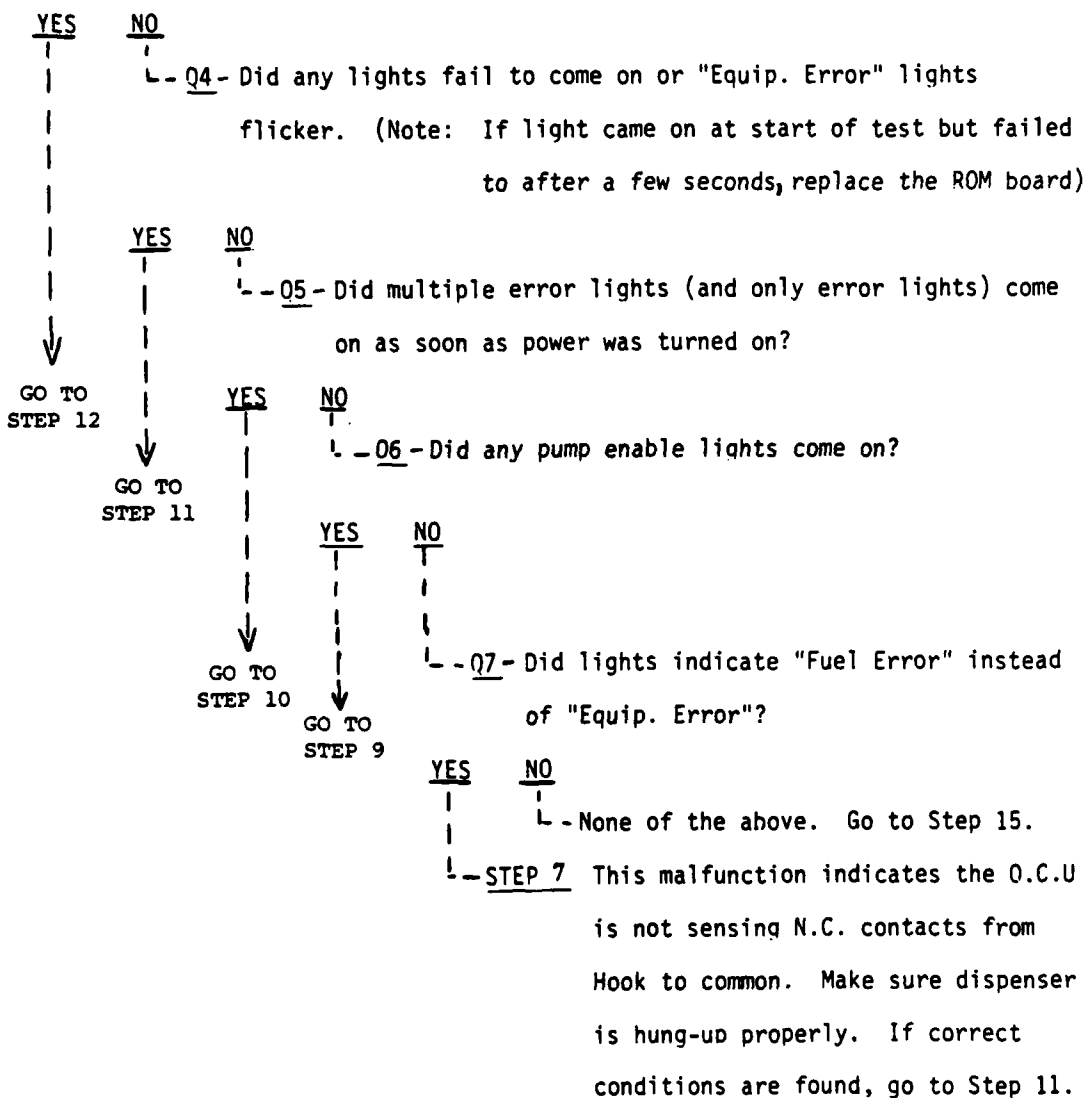
STEP #3 Power on O.C.U. terminal

Q1- Did you hear an audio tone lasting for about one second or less?



STEP #6 Put AUTO/BY-PASS switch in the AUTO position. Turn off power to O.C.U. for 15 seconds & back on again. Close O.C.U. door. Push buttons 1 thru 5 for about 5 seconds each. On those buttons tied to a dispenser an "Equip. Error" light should light when the button is pushed. On those buttons not tied to a dispenser the "Fuel Error" light should light. Exception is push button #5. It should indicate "Equip. Error" when pushed even though it is not tied to a dispenser. Go to Q3

Q3 - Did above test prove satisfactory?



STEP 9 Replace the ROM board. (See note at bottom of page.)

STEP 10 Replace the CPU and/or power board.

STEP 11 a. Replace the INTF/PWR board.
b. Replace UART-MODEM Board.

STEP 12 Put AUTO/BY-PASS switch in BY/PASS and push button 1-5 momentarily. Each should indicate a "Fuel Error" when depressed. Go to Q8.

Q8-Did above test prove satisfactory?

YES NO

└─Go to Trouble Symptom list this guide.

└─ — — STEP 13 Put AUTO/BY-PASS switch back in AUTO position. Power O.C.U. off & back on again. Put all zeros in Thumb Wheel Switch Assembly. Put appropriate Test Card in reader & remove. Press appropriate push button. The "Wait Light" should come on. A "Comm. Fail" light should come on about 20 + seconds later, followed by the wait light timing out in approx. 30 seconds. See IF statements below.

NOTE: If "Comm. Fail" light did not come on, replace ROM Board.

If "Wait Light" did not come on, replace INTF/PWR board.

If above test proved satisfactory continue with Step 14.

STEP 14 With unit now in "Comm. Fail: & "Wait Light" off push each button to insure no lights come on. Go to Q9.

Q9-Did the above step prove satisfactory?

YES NO

└─Go to Trouble Symptom list.

└─ — — Go to Polling Simulator (Pre-test) this guide.

NOTE: If the "Wait, "Fuel Error," "Equipment Error," & pump enable lights for 2 & 4 all come on, replace the RAM board----only if ROM board replacement did not correct the condition. If only pump enable light(s) are on & ROM replacement did not correct this condition; replace the PWR/INTF board.

STEP 15 Using a DC voltmeter check the +12, -12 & +5VDC test points to common on the mother board. Go to Q10.

Q10 - Are all voltage within limits listed below?

+12VDC, to 14.0 VDC, -12VDC to -16.0, +5VDC to +5.2

```

graph TD
    YES[YES] --> GO22[GO TO STEP 22]
    NO[NO] --> L1[-12VDC &/or +5VDC not within acceptable limits, but +12 VDC ok.]
    L1 --> OR[OR]
    OR --> S16[STEP 16 Replace INTF/PWR board.]
    S16 --> L2[- - - - -> +12VDC too low causing other voltage readings to read below acceptable limits or being non-existent.]
    L2 --> S17[STEP 17 Requires further checks. Follow sequence of checks listed below:]
    S17 --> A[a. Defective power fuse on Mother board. Replace with good fuse.]
    S17 --> B[b. No AC power reaching O.C.U. mother board and battery fuse bad. Take appropriate corrective action.]
    S17 --> C[c. No AC power reaching bridge network. (Heat sinked to base O.C.U. cabinet) check for approx. 17VAC between ties 1 & 2 on lower side of mother board.]
    C --> GO11[Go to Q11.]
    GO11 --> GO22

```

Q11 - Is 17VAC present?

```
YES      NO
|        |
|        L -One of the 1 OHM, 8 WATT current limiting resistors may have
|          become defective. (Go to Step 18.)
|
|          STEP 18 Replace defective resistor with servicable like item,
|                  or replace entire Mother board.
|
L — — STEP 19 Using a voltmeter check for approximaly + 15 VDC
              between tie point marked 9 or 10 on Mother board and
              leftmost leg of bridge network. (Go to Q12.)
```

Q12 - Do you have the correct readings?

YES

NO

— Bridge network defective.

STEP 20 Remove & replace network with servicable like item,
or remove & replace entire Mother board.

— — — SCR, or other power supply component defective.

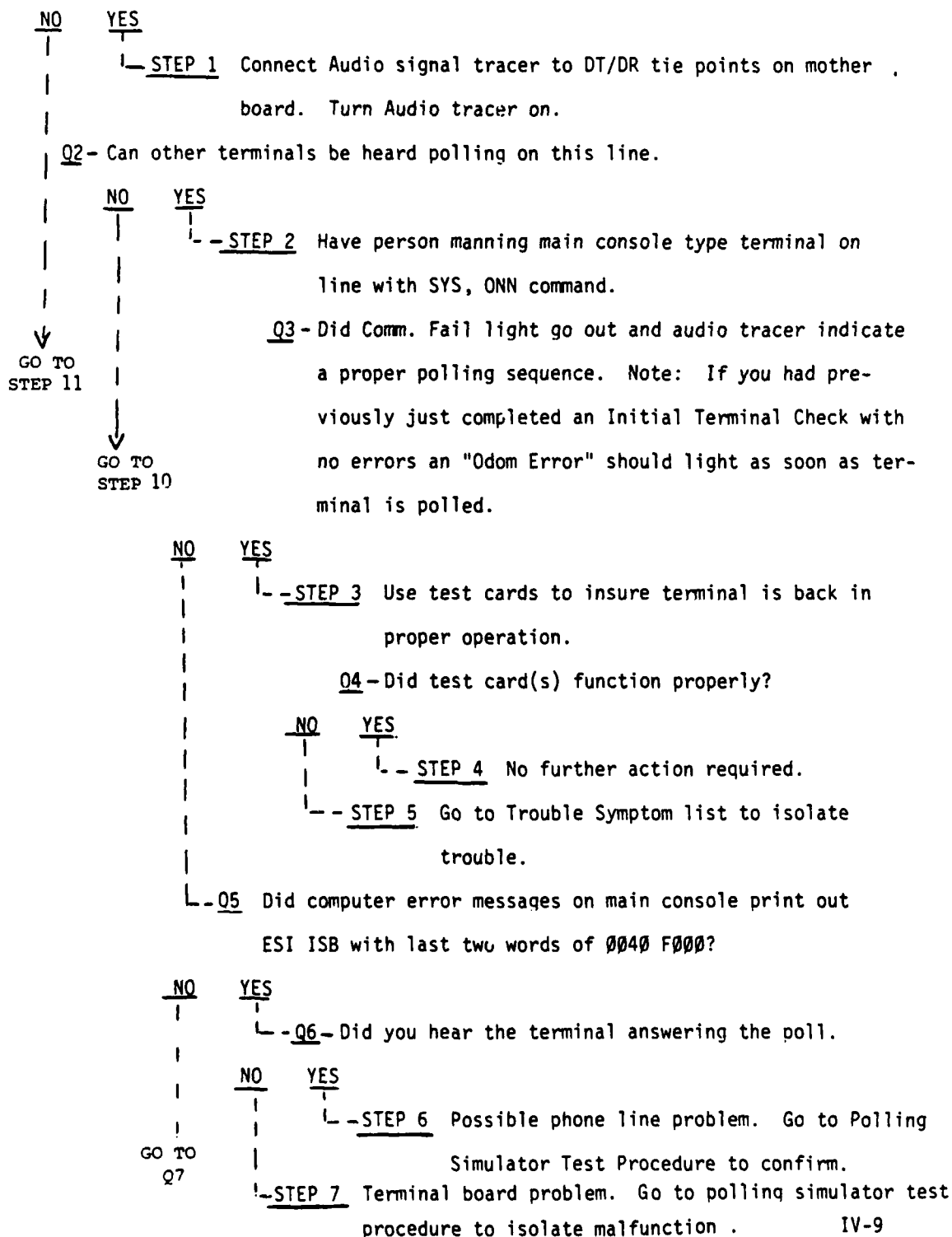
STEP 21 Replace Mother board, no further action required.

STEP 22 Power unit off & on at least one more time to see if
malfunction clears. If problem persist start replace
circuit boards in the follow order until problem is
eliminated:

- a. UART-MODEM
- b. INTF/PWR
- c. RAM

Polling Simulator (Pre-test)

Are other O.C.U. terminals polling on same comm. line as terminal undergoing test?



Q7-Did you hear the terminal answering the poll four times?

```

NO      YES
|       |
|- STEP 8 If error messages on main console were MATCHERR then go to
|         Trouble Symptom List under Comm. Fail to isolate malfunction.
|         If error messages were ESI-ISB, go to Polling Simulator Test
|         Procedure to isolate malfunction.
| - - - - STEP 9 Terminal board problems, go to Trouble Symptom List under
|             Comm. Fail to isolate malfunction.
|
| STEP 10 Telephone line problem. Turn problem over to those respon-
|             sible for maintaining communications network (Telephone Co.)
|
| STEP 11 Connect audio signal tracer to DT/DR tie points on mother
|             board and turn tracer on.
```

Q8-Can you hear the steady tone of computer data set?

```

NO      YES
|       |
|--STEP 12 Have a person at main console put terminal and line on-line
        with SYS,ONN commands. Go to Question 3 above.
|
|--STEP 13 Telephone line problem. Turn problem over to those respon-
        sible for maintaining communications network (Telephone Co.)

```

POLLING SIMULATOR TEST PROCEDURE

- STEP #1 Remove audio signal tracer from DT/DR tie points.
- #2 Disconnect telephone pair from DT/DR.
- #3 Connect Polling Simulator line to DT/DR.
- #4 Re-address Interface/Power Supply board for terminal 01.
- #5 Turn simulator (Tape Recorder) on.
- #6 Turn volume control up to approx. 40%

QUESTION #1

Did terminal come out of comm. fail status

<u>NO</u>	<u>YES</u>
	L -Telephone line problem. Call person responsible for
	communication network (Telephone Company)
	- - - - Repeating test procedure between board replacement,
	start replacing boards one at a time in the following
	order: a. UART-MODEM
	b. INTRF/PWR
	c. ROM
	d. CPU

NOTE: Remember to re-address INTF/PWR board to its proper terminal number once this procedure is completed.

POLLING SIMULATOR SUBSTITUTION

This procedure can be used for a terminal which is on the same line with other terminals that are polling. The procedure should be used with one precaution. It is likely that if the phone line is acceptable between terminal under test & Series One computer, error messages will occur on the line to extent of taking the line off-line. This will not occur if instructional steps are followed closely.

STEP #1 Temporarily change address of terminal (via dip sw: on INTF/PHR Bd) to any address number of a terminal that you know to be polling on same line. Do so while terminal is powered on. One of 3 conditions will occur.

CONDITION 1: Terminal will come out of Comm. Fail status.

CONDITION 2: You will hear steady audio tone.

CONDITION 3: No change, terminal still in Comm. Fail with no accompanying steady tone on phone line.

Q1 - Did you cause condition 2 to occur?

NO

YES

- STEP 2 Quickly put dip switch back to correct address or power off terminal. Go to Step 7.

- Q2 - Did you cause condition 1 to occur?

NO

YES

- STEP 3 Telephone line problem on pair (Four line facility) returning poll to Series One computer equipment.
Call telephone company to have problem corrected.

- - - STEP 4 Condition 3 is very rare but does happen occasionally.
This condition indicates the db level of the poll being received is too low for the UART modem to respond to, or the UART-MODEM board is defective.
Corrective Action: Replace UART-MODEM. Go to Q3.

Q3 - Did replacing the modem give you a condition other than condition 3?

NO

YES

| - STEP 5 Go to that condition & proceed.

| - - - STEP 6 Report db level trouble to telephone company.

STEP 7 The terminal established communications with the Series One computer.

Have person at main console perform SYS,ONN command for terminal
once correct address has been placed on dip switch of Interface &
Power Supply board.

Q4 - Did the terminal now come out of Comm. fail status?

NO

YES

| - Use test cards to insure terminal is operating properly. See

| Test Card Procedure this guide.

| - - - - Replace Interface Power Supply Board.

COMMON O.C.U. TROUBLE SYMPTOMS

Using this section one should keep in mind that a microprocessor is a very intricate device having many interrelated circuits. A particular trouble can not always be pinpointed to the same circuit board which may have previously corrected the problem; therefore, this section is organized to list the most likely causes for a given trouble symptom.

Before attempting to use this section be sure to gather as much information as possible about the reported problem. Ask these questions of yourself:

- *Can I correct the problem at the main console?
- *Is it a telephone line problem?
- *Is it a problem with the O.C.U. terminal or with the dispenser?
- *If it is a problem with the O.C.U. terminal does it occur before or after a wait light?

Questions like these will help you make better use of this section in isolating the particular malfunction.

<u>SYMPTOM</u>	<u>PAGE</u>
SYS. ON LIGHT	IV-15
COMM. FAIL LIGHT.....	IV-17
WAIT LIGHT.....	IV-20
ERROR LIGHTS.....	IV-22
PUMP LIGHT.....	IV-20
PUMP MOTOR SHUTTING OFF TOO SOON (AUTO)	IV-25
PUMP MOTOR WON'T COME ON (AUTO)	IV-25
PUMP MOTOR WON'T SHUT OFF (AUTO)	IV-25
OTHER TROUBLE SYMPTOMS.....	IV-26

SYMPTOM (1 of 2)

SYS. ON Light Off, no comm. fail indication at main TTY console or at OCU terminal.

STEP #1 Use a test card to enable a pump

Q1- Did you get a wait light?

NO

YES

- └ --Terminal operating. Probable cause of malfunction is one of the following conditions:
- a. Leads on SYS. ON light shorted together.
 - b. Open in ribbon cable or 16 pin connector to SYS. ON light.
 - c. Defective IC on Intf/Pwr. board.
 - d. Defective SYS. ON L.E.D.

STEP #2 Insure the following conditions exist before preceeding any further.

- a. Power fuse & battery fuse good.
- b. The off/on switch has not been turned off.
- c. The AC to terminal has not been turned off.

If any of these conditions were found & corrective action taken --

Q2- Did this clear the malfunction?

NO

YES

- └ --Have person at main console put terminal back on line with SYS, ONN command. Use test cards to insure unit is functioning properly.

STEP 3 Replace Intf/pwr. board with serviceable spare.

Q3- Did this action clear the malfunction?

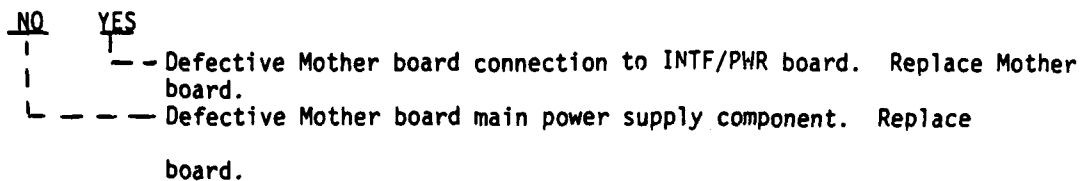
NO

YES

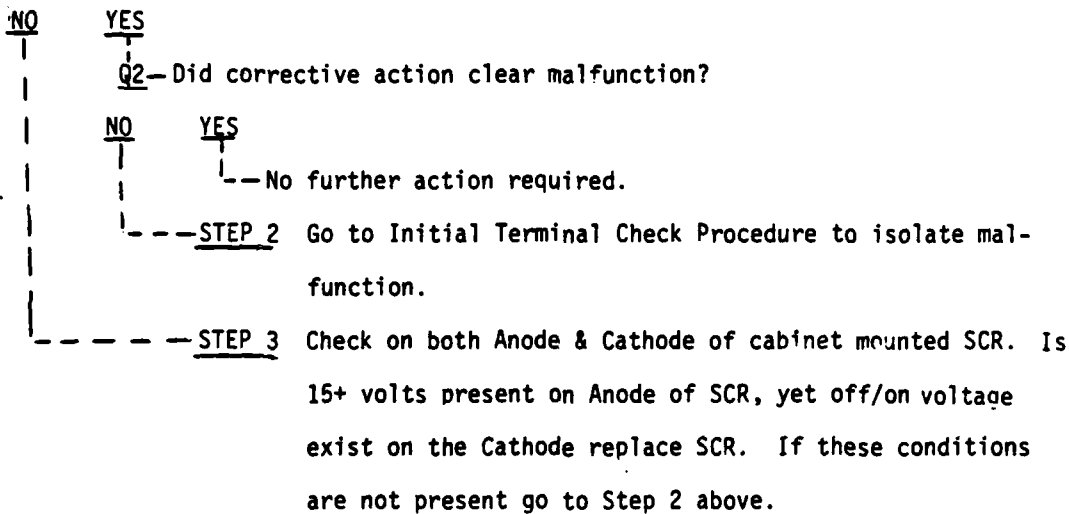
- └ --Go to Yes under Q2.

STEP 4 Take voltage measurement at +12VDC test point to common tie on Mother Board.

Q4 Did you read +12VDC or greater?

SYMPTOM (2 of 2)SYS. ON Light blinking on & off again.STEP 1 Check following conditions first.

- a. No AC power getting to Mother board.
- b. Power fuse on Mother board defective

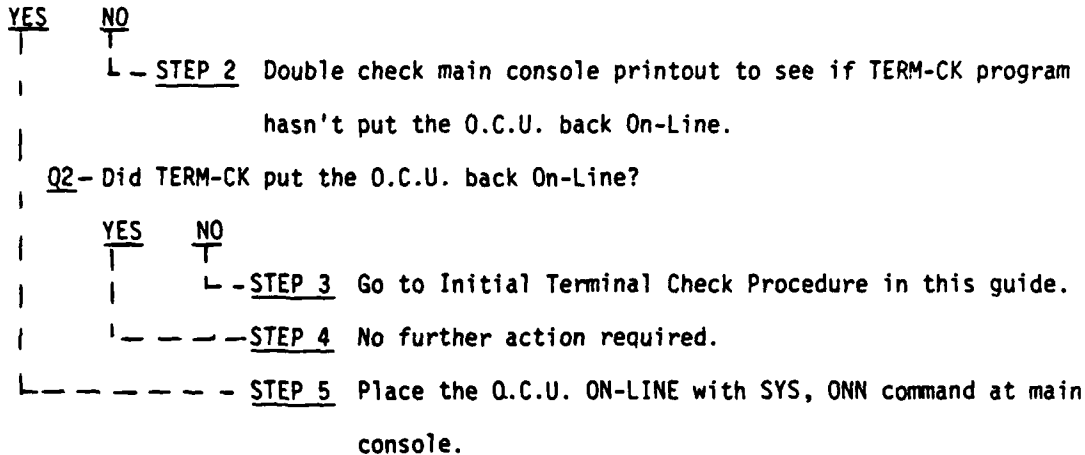
Q1 - Did either of these conditions exist?

SYMPTOM (1 of 1)

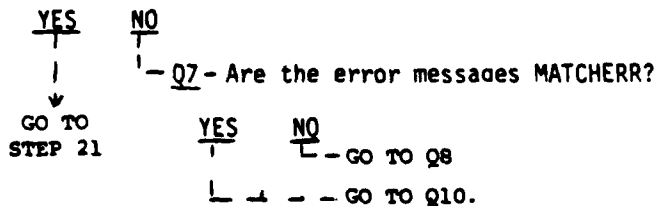
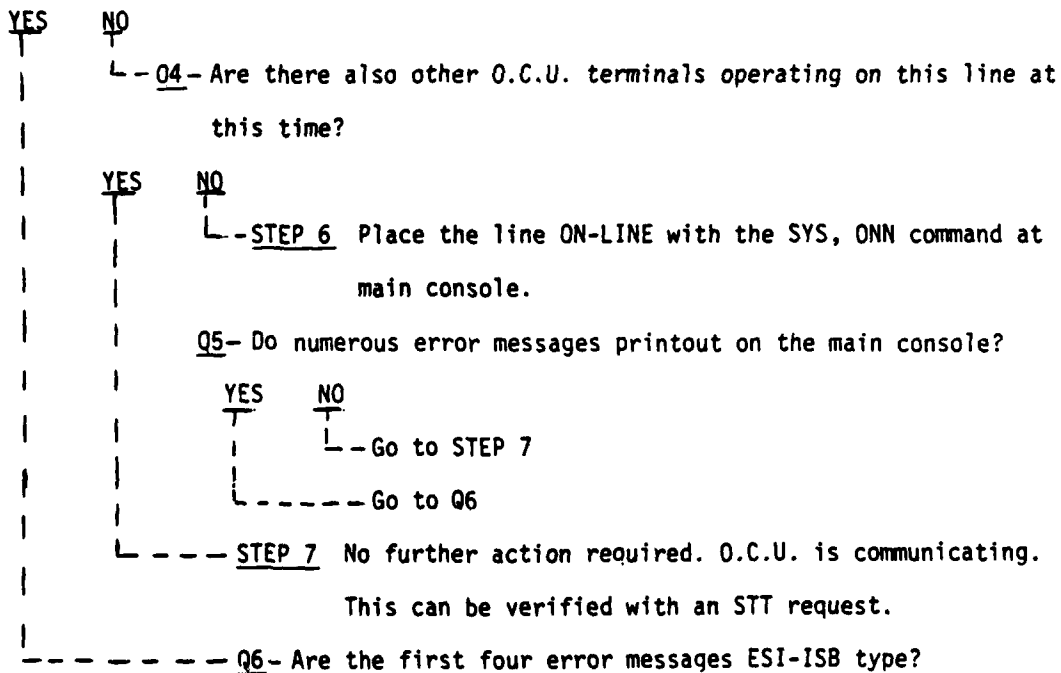
COMM. FAIL LIGHT ON:

STEP 1 Perform an STT on main console.

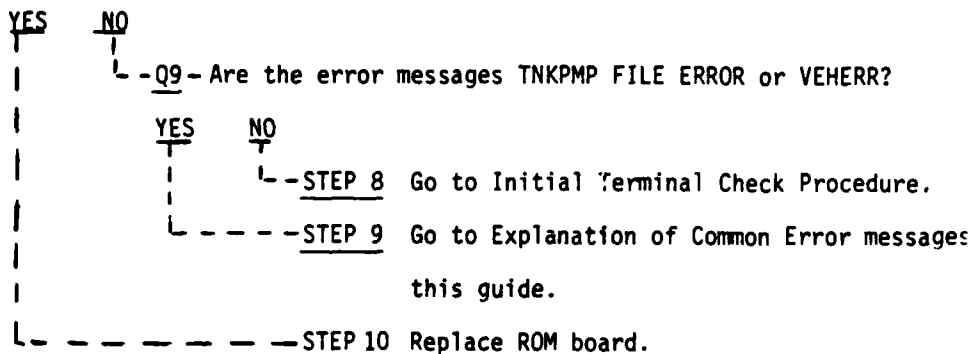
Q1- Does the O.C.U. show an OFF-LINE status?



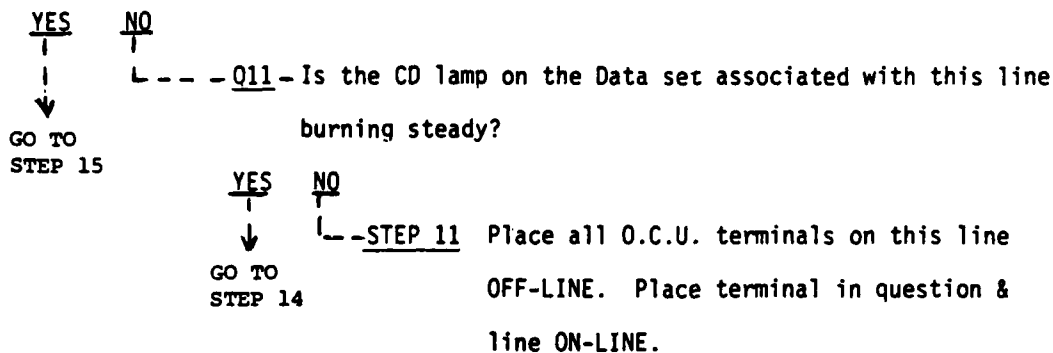
Q3- Do five error messages print on the main console?



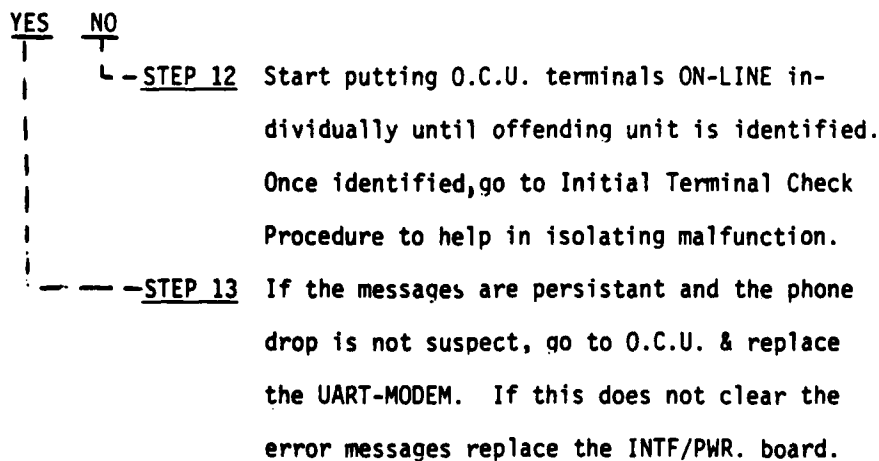
Q8 - Are the error messages VALIDCK, LCKERR or INVALID CARD 29990?



Q10 Are there other O.C.U. terminals communicating on this line sending MATCHERR messages?



Q12 - Do MATCHERR'S still occur?



STEP 14 Go to Initial Terminal Check Procedure, this guide, to help isolate the malfunction.

STEP 15 Place the line OFF-LINE.

Q13 - Does the CD lamp on the Data Set flicker intermittently or even burn steady?

YES	NO	
		----- <u>STEP 16</u> It went out--replace defective Data Set.
		----- <u>STEP 17</u> Put an audio tracer on Comm. line that Data
		Set is connected. You will hear a 1070 HZ
		audio tone. Disable power to Data Set. An
		acceptable line should be quiet.

Q14- Do you hear background noises such as voices, ringing, busy tones, music or frequent static?

```

YES      NO
|        |
|        | LQ15 Do you hear an intermittent burst of 2125 HZ or
|        |         a steady 2125 HZ tone?
|        |
|        | YES      NO
|        | |        |
|        | |        | STEP 18 Replace defective Data Set.
|        | |        |
|        | |        | STEP 19 Go to each remote O.C.U. to fine offending unit.
|        | |        | Once identified go to Initial Terminal Check
|        | |        | Procedure to assist in clearing malfunction.
|        | |        |
|        | |        | STEP 20 Report problem to the telephone company.
|        | |        |
|        | |        | STEP 21 Enter ART command at main console for O.C.U. in
|        | |        | question. A TREPOL ERROR should follow.
|        | |        | (An ART may cause one MATCHERR) Go to Step 22.

```

STEP 22 Perform SYS,ONN command.

Q16-Did terminal respond with Auto Restart message?

<u>YES</u>	<u>NO</u>	
		—Go to offending O.C.U. terminal and perform Initial Terminal Check Procedure to isolate malfunction.
		— — —No further action required, O.C.U. is communicating.

IV-19

Wait light (1 of 1)

1. No wait light with card request, yet request honored.
 - a. Check leads on wait light, may be shorted.
 - b. Replace INTF/PWR Board.
 - c. Defective LED bulb.
2. No wait light with card request, request not acknowledge.
 - a. Check ribbon cable connections.
 - b. Replace INTF/PWR Board.
 - c. May be any board in O.C.U. to include card reader.

Pump Enable Light(s) (1 of 1)

1. Come on without being selected
 - a. Replace ROM board.
 - b. Replace INTF/PWR board.
 - c. Replace RAM board
2. Won't go out after pump nozzle is hung back up properly & at least 1/10 of a gallon of gasoline was dispensed.
 - a. Replace INTF/PWR board (If light times out)
 - b. Replace ROM board. (If light will not time out)
3. Will go out almost immediately after being enabled.

*Replace INTF/PWR board.
4. Pump Enable X causes Pump Enable Y to drop-out when dispenser X is returned to On-Hook condition. (Example next page)

Example: Dispenser #1 & #2 being used. Dispenser #1 reaches its gallon limit or is hung up. It causes dispenser #2 to shut off also.

*Replace the ROM board.

5. Won't come on, yet system functions normally in BYPASS.
 - a. Replace INRF/PWR board.
 - b. Replace L.E.D. bulb.
6. Very dim and control device not activated. System functions normally in BYPASS.
 - a. Replace L.E.D. bulb.
 - b. Replace INTF/PWR board.

SYMPTOM (1 of 3)

Equip. Error Light Upon removing card from magnetic stripe reader, before any push button is depressed.

STEP #1 Use Test cards .

Q1- Does this problem persist?

NO YES

| | — Replace INTF/PWR board.

| Q2— Does problem persist?

| NO YES

| | — Replace ROM board &/or Magnetic Stripe reader.

| | — — No further action required.

| — — — — Card(s) being used have become defective or are not encoded for this fuel system.

SYMPTOM (2 of 3)

Equip. Error Light after removing card & depressing push button. (After "Wait Light").

STEP #1 Use test cards.

Q1- Does this problem persist?

NO YES

| | — Possible defective RAM board.

| — — — — Card has been put off line.

SYMPTOM (3 of 3)

Equip. Error Light after removing card & depressing push button (No "Wait Light")

STEP #1 Use test cards.

Q1- Does this problem persist?

NO YES

| | — a. Replace Card Reader.

| | — b. Replace ROM board.

| — — — — Operator Error.

SYMPTOM (1 of 2)

Fuel Error light immediately follow push button request. (No wait light)

Q1 - Is the dispenser nozzle hung up properly & the off/on lever turn completely off?

YES

NO

└ - Correct above condition & try again.

Q2 - Do you still get a Fuel Error?

YES

NO

└ - Condition Corrected. No further action required.

└ - Q3 - Is the Hook & Common lines properly secured to the tie points on the Mother board?

YES

NO

└ - Correct above condition & try again.

Q4 - Do you still get a Fuel Error?

YES

NO

└ - Condition corrected. No further action required.

└ - Using a DC voltmeter check for zero volts between hook & common on tie points for dispenser in question. A zero volt reading should occur when dispenser is properly hung-up & a +5VDC when it's off-hook.

Q5 - Do you have +5VDC present even when dispenser is not off hook?

YES

NO

└ - Replace Interface & Power Supply board.

└ - Possible problem is mechanical sense switch maladjusted or Load Complete Relay not kicking out do to contact sticking.
Solution: Adjust mechanical sense switch or replace Load Complete Relay.

SYMPTOM (2 of 2)

Fuel Error Light after wait light.

Q1 - Using test cards, does problem persist?

NO

YES

L - Replace Interface/Power board

L - — — — Card being used has been assigned wrong fuel type.

ODOM ERROR LIGHT (1 of 1)

For almost every card used even though correct odom reading is begin inserted in Thumb Wheel Switches.

STEP #1 Using test card insert all ones in Thumb Wheel Switch Assembly units (1-6). Do same for two, fours & eights.

Note: Push each pump enable button a second time to have transaction sent to TPT console in each of above cases.

STEP #2 Call person manning TPT print to determine if correct digits were printed out for each transaction.

Q2 - Were all digits reported correctly?

NO

YES

L - Replace interface/Power supply board.

L - Replace Thumb Wheel Switch assembly.

MULTIPLE ERROR LIGHTS (1 of 1)

- a. Replace CPU board
- b. Replace INTF/PWR. board

ERROR LIGHT(s) FAIL TO TIME OUT (1 of 1)

- a. Replace ROM board
- b. Replace INTF/PWR board
- c. UART-MODEM board

SYMPTOM (1 of 3)

Pump Motor Shutting off in approx. 1 (one) minute from when it was enabled:

STEP 1 Go to Dispenser/Relay J-Box Related Problem section, see Item 3.

Do so before preceeding to Step 2.

STEP 2

- a. Replace INTF/PWR Bd.
- b. Replace RAM board.
- c. Replace ROM board.

SYMPTOM (2 of 3)

Pump Motor won't come on in Auto.

Q1- Will pump motor come on in By-pass?

YES

NO

|
|
|

Go to Dispenser/Relay J-Box Related Problem section,
see Item 1.

----- Replace INTF/PWR board & return O.C.U. to AUTO.

SYMPTOM (3 of 3)

Pump motor can be reactivated after fueling transaction.

- a. Replace ROM board.
- b. Replace INTF/PWR Bd.

OTHER TROUBLE SYMPTOMS

Slow Poll or Erratic Poll response from a given O.C.U.:

- a. Replace ROM board
- b. Replace RAM board
- c. Replace CPU board
- d. UART-MODEM board
- e. Mother board

Erratic Terminal Operation:

- a. See explanation under Cold Starts this section.
- b. Replace CPU board
- c. Replace ROM board

Wrong Number of Gallons being recorded by O.C.U. terminal, varified by Test Card Procedure.

- a. See Dispenser/J-Box Related Problems section before preceeding.
- b. Replace RAM board.
- c. Replace INTF/PWR board.

Loss of all O.C.U. terminals on one line which will not respond to SYS,ONN command for terminal & line. (Assuming no constant carrier on Line).

- a. Replace UDS Series-One mounted Data Set with spare before preceeding.
- b. If above action did not correct the problem call telephone company to report defective phone line circuits.

VALIDCK message sent to Series One when O.C.U. terminal is put in BY-PASS

*Replace the ROM board.

Intrusion Alarm reporting to Series One erratic or not reporting at all.

- a. Check for loose mounting of switch or bad connections.
- b. Replace the ROM board.
- c. Replace the INTF/PWR board.

DISPENSER/RELAY J-BOX RELATED PROBLEMS:

1. Unable to obtain fuel even in By-Pass.

NOTE: Check associate pump run fuse on mother board first.

- a. Mechanical switch in dispenser maladjusted or defective.
- b. Midtex relay in J-Box defective.
- c. Power control (BLACK) relay defective.

2. Pump will not shut-off when in By-Pass.

- a. Mechanical switch in dispenser maladjusted.
- b. Midtex relay contacts (sticking) defective.
- c. Power control relay defective.

3. Error messages on main console TTY. NO TOTAL CAME IN. Pump times out in approx. 1 (one) minute.

STEP 1 Using a DC voltmeter check to see if pulses are arriving at the Mother board (Measured between associated pulser & common tie) while dispensing fuel.

Q1 — — Were pulses arriving at the Mother board?

YES

NO

— Defective pulser, bad connection or pulser sense head assembly improperly mounted.

— STEP 2

Using a DC voltmeter check between hook & common for a reading of 5 VDC when dispenser is in the off-hook condition.

Q2 — — Did you get the correct reading?

NO

YES

— Go to O.C.U. Common Trouble Symptoms.

— — — Replace Midtex relay in J-Box.

* THUMB WHEEL SWITCH ASSEMBLY CHECK.....See
Trouble Symptoms under "Odom Error" light.

COLD STARTS

A "Cold Start" is when power has been turned off for several minutes to a terminal at temperatures below freezing. A terminal undergoing a cold start will perform erratically until an optimum temperature is reached in the terminal cabinet. The best method for dealing with cold starts is to replace all the circuit boards with (WARM) known good spares or leave the terminal on for 4 to 6 hours before trying to perform an Initial Term. Check.

*Note: A dead battery (Blown Fuse or defective Batt.) will also cause erratic terminal operation. Check: (a) fuse, (b) charge voltage, (c) battery voltage under load conditions...This can be done by removing AC power to terminal (leave OFF/ON s.w. on) Voltage should not be below 12 volts.

(11.9 VDC not acceptable) If fuse is blown and battery appears to be ok, then allow 1-2 hours for charge before performing Initial Term. Check or replace with (WARM) known good spare.

MARCH 4, 1981
(REV. May 7, 1981)

N. Y. P. D. AUTOMATED
FUEL SYSTEM
SERVICE GUIDE

SECTION V
DIAGRAMS & PICTORIALS:*

*NOT INCLUDED IN THIS REPORT. CAN
BE MADE AVAILABLE UPON REQUEST IF
REQUIRED.

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END

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