

## I. EXECUTIVE SUMMARY

The Office of Public Integrity (OPI) observed the annual physical inventory of the Equipment Services Division auto parts stockrooms on June 12, 2010. The results of the inventory indicate that the variance rates for the main auto parts and the new tire room inventory have increased since the last inventory date. The variance rate for the used tire room has decreased since the last inventory date.

- ◆ The Office of Public Integrity noted variances in 16% of our sample selection of the main auto parts, the machine shop and the sign shop, indicative of differences between the physical counts and the quantities recorded in the perpetual records.
- ◆ We noted variances in 5% of the new tire inventory items, variances in 4% of the used tire inventory items and variances in 11% of the Rochester Police Department (RPD) auto parts inventory.
- ◆ OPI noted that stockroom personnel had shipped 48 items to vendors for credit, however, did not remove these items from the perpetual inventory records. Additionally, we noted 97 duplicate line items on the perpetual inventory system which negatively impact variance calculations.

## II. BACKGROUND, OBJECTIVES, AND SCOPE

### A. Assignment

The Office of Public Integrity routinely observes and participates in annual physical inventories of various City stockrooms. The Equipment Services Division of the Department of Environmental Services conducted its annual physical inventory on June 12, 2010. The Office of Public Integrity participated in these counts at the request of Equipment Services.

### B. Background

Equipment Services maintains and repairs City motor vehicles and other motorized equipment, except Fire Department vehicles. Equipment Services stores and manages an inventory of supplies and materials necessary to perform these functions. As of June 12, 2010, the total value of the entire inventory was \$604,940. The inventory is comprised of eleven storerooms. The main auto parts inventory comprised 4,035 line items valued at approximately \$298,116. The new tire inventory

comprised 98 line items valued at approximately \$33,552. In addition to these two inventories, there are nine smaller storerooms, including two service trucks, with a combined 846 items valued at \$273,272. OPI tested the used tire storeroom comprised of 75 items valued at \$6,726 and the RPD auto parts storeroom comprised of 45 items and valued at \$78,815.

Stockroom personnel use an automated inventory system that assists in controlling quantities and providing various management information. Equipment Services installed this system in August 2002. A perpetual inventory record is an essential feature of this system.

C. Objective and Scope

The objectives of this review were to assure an accurate and complete physical inventory count and to assess the effectiveness of inventory controls.

Management is responsible for establishing and maintaining a system of internal accounting and administrative control. Fulfilling this responsibility requires estimates and judgments by management to assess the expected benefits and related costs of control procedures. The objectives of a system are to provide management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of accurate, informative reports that are fairly stated.

Because of inherent limitations in any system of internal accounting and administrative control, errors or irregularities may nevertheless occur and not be detected. Also, projection of any system evaluation to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or that the degree of compliance with procedures may deteriorate.

The recommendations presented in this report include the more significant areas of potential improvement that came to our attention during the course of the examination, but do not include all possible improvements that a more extensive review might develop.

III. RESULTS OF REVIEW

A key element in any inventory control system is the proper maintenance of perpetual inventory records. Equipment Services maintains an automated perpetual system that provides ongoing recordkeeping for the stockroom inventory.

Generally, differences between physical (actual counts) and perpetual records should be important indicators of the operational efficiency of the inventory control system. Analysis of significant differences between the records may indicate weaknesses in data processing, ineffective security measures, theft, posting errors, inadequate physical verification procedures or any combination of these. Management should be interested in explanations of the differences as a basis for taking corrective action in controlling inventories.

A prime objective of taking a physical inventory is to determine variances between actual inventory quantities and booked, perpetual quantities. Analysis of variances provides insight into potential problems and can deter major problems before they occur. When analyzing the causes of inventory variances, it is important to analyze significant line item differences as well as the total variance for the entire inventory. Additionally, management should analyze positive and negative line item variances separately, rather than combining them to consider a net figure. This is because events causing negative variances may be different from those causing positive variances.

The results of this physical inventory indicate that the variance rate for main auto parts has significantly increased since the last inventory date and the variance rate for new tires has also increased since the last physical inventory conducted on May 9, 2009. We also determined variances in two additional storerooms.

A. Variance Analysis – Auto Parts

OPI selected a statistical sample of items included in the stockroom inventory. The sample selection assures proper representation throughout the entire population of inventory items and accurately projects the results against the entire inventory. The range of unit costs included in the sample extends from \$0.01 to \$1,165.99. OPI compared the actual count of each of these selected items to perpetual records and noted any variances.

Of the 418 inventory items tested in the sample, we noted 67 variances. This represents a sample error rate of 16%. The graph below presents historical error rates as a reference.

Equipment Services Division  
Auto Parts Inventory  
Sample Error Rate Percentages

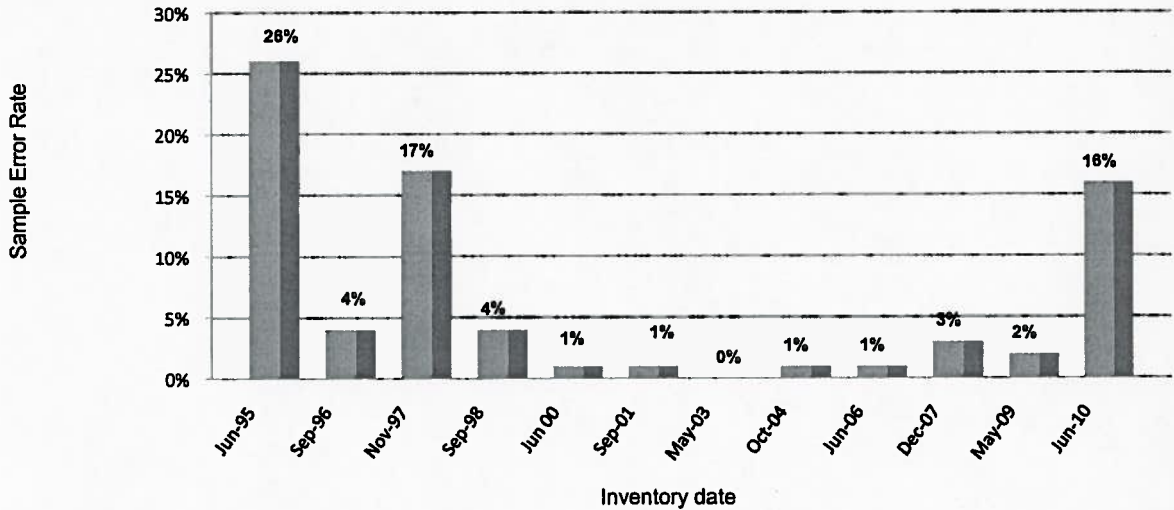


Table I (attached) presents the variance analysis of the statistical sample selection for those items in which a variance exists. It demonstrates individual variances between actual physical counts and quantities recorded in the perpetual records, and presents positive and negative variances separately. Additionally, the table includes the net variance.

When OPI extends the sample error rate of 16% to the entire population of 4,515 different stock items (this number includes 4035 line items in the main storeroom plus an additional 480 line items from four other storerooms combined with the main storeroom), the projection indicates that the actual number of errors in the population is in the range of 510 to 876 item types. The sample error rate of 16% is higher than the prior error rate of 2% noted in May 2009 and the 3% error rate noted in December 2007.

◆ Recommendation

Management should determine the causes of the variances and implement corrective action, making inventory control a priority.

B. Variance Analysis - Tires

The Office of Public Integrity counted and compared all new tire quantities to quantities recorded in the perpetual records. This is in contrast to the statistical sample taken of auto parts.

Of the 98 inventory line items located in the new tire stockroom, we noted five variances. This represents an error rate of 5%. This error rate is higher than the variances noted in both the 2009 and the 2007 inventories.

The following graph presents historical error rates as a reference.

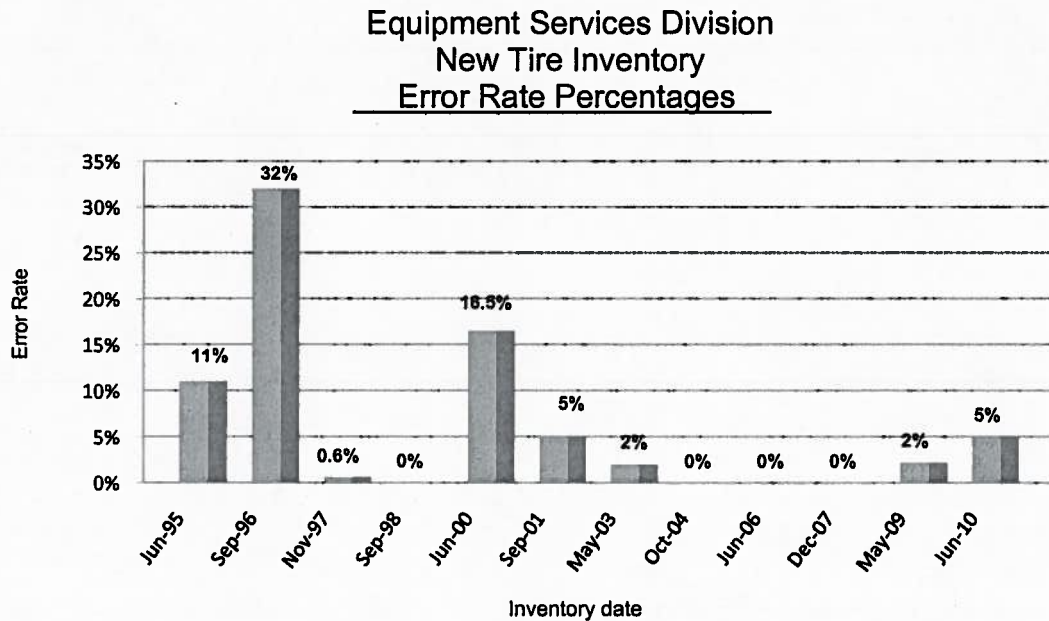


Table II (attached) presents the variance analysis of the statistical sample selection for those items in which a variance exists. It demonstrates individual variances between actual physical counts and quantities recorded in the perpetual records, and presents positive and negative variances separately. Additionally, the table includes the net variance.

◆ Recommendation

Equipment Services should identify the cause for the increase in variance, take corrective action and continue to make inventory control a priority.

C. Additional Storerooms Variances

In addition to the main auto parts storeroom and the new tire storeroom, Equipment Services perpetual inventory records include nine additional storerooms. Four of the nine storerooms were combined with the main auto parts storeroom for random sampling.

OPI tested the used tires and the RPD vehicle parts storerooms in their entirety. Below is a list of all nine storerooms and the variances noted in those we tested.

Department of Environmental Services  
Equipment Services  
Additional Inventory by Location

<u>Location</u>	<u>Storeroom</u>	<u>Total Line Items</u>	<u>Total Value</u>	<u>No. of Items Tested</u>	<u>% of Items Tested</u>	<u>No. of Variances</u>
101	Machine Shop	221	\$ 11,440.37	**		
102	Seasonal	115	137,821.49	**		
103	Seasonal	8	10,274.79	**		
104	Sign Shop	136	23,303.27	**		
106	Used Tire Storeroom	75	6,725.89	75	100%	3
108	Other Tire Parts Storeroom	27	2,448.19	*		
109	RPD Auto Parts Storeroom	45	78,815.41	45	100%	5
ST1	Service Truck	128	1,682.26	*		
SVT	Service Truck	<u>91</u>	<u>760.81</u>	<u>*</u>		
	<b>Total:</b>	<b><u>846</u></b>	<b><u>\$273,272.48</u></b>	<b><u>120</u></b>		

\* Storeroom not tested

\*\* Included in main storeroom testing

The variance for the RPD auto parts storeroom has increased from 3.4% noted in the May 2009 to 11 % and the variance for the used tire storeroom has decreased from 6.7% to 4%. The following graph presents historical error rates for RPD auto parts as a reference.



Equipment Services Division  
RPD Auto Parts Inventory  
Error Rate Percentages

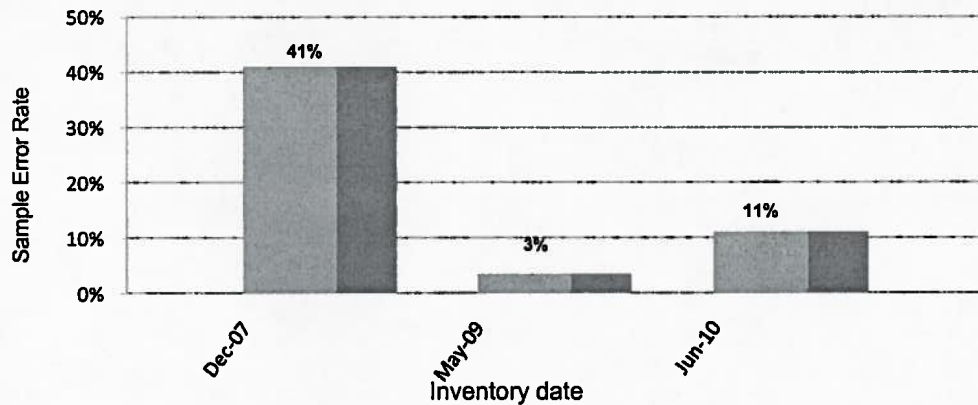


Table III and Table IV (attached) present the variance analysis of those items in which a variance exists for the RPD auto parts and the used tire parts storerooms. Each demonstrates individual variances between actual physical counts and quantities recorded in the perpetual records, and presents positive and negative variances separately. Additionally, the tables include the net variance.

◆ Recommendation

We recommend that personnel continue to perform cycle counts in order to achieve and maintain lower variance rates. Equipment Services should determine the causes of the variances and make inventory control a priority for these additional inventory storerooms.

D. Inaccurate Perpetual Inventory Records

OPI noted that stockroom personnel returned 48 items to vendors for credit but did not remove them from the perpetual inventory system records, thereby inflating quantities and inventory value. Additionally,



98 line items appeared on the perpetual inventory system twice in two different storerooms.

Differences between the physical and perpetual records of an inventory are important indicators of inventory control. A perpetual inventory system should reflect current quantities physically stored in an inventory. Additionally, duplicate line items will artificially inflate the total number of line items which will negatively impact variance calculations.

◆ Recommendation

We recommend that stockroom personnel remove all items from the perpetual inventory system when they ship them to the vendors for credit and ensure that identical item types are not listed in duplicate line items on the perpetual inventory.

IV. DEPARTMENTAL RESPONSE

The response of the Department of Environmental Services follows.

**Table I: Department of Environmental Services  
Equipment Services Division  
Stockroom Inventory - June 12, 2010  
Variance Analysis of Auto Parts**

Stock Number	Part Description	Booked	Quantity Counted	Item Count Variance		Unit Cost	Dollar Variance	
		On Hand		Over	Short		Over	Short
20008	TPMS Valve Each	98	99	1		\$ 3.95	\$ 3.95	
PLOPFE275	2-34 oz Steel Wheel Weights	1	0		1	15.61		\$ -15.61
F43774	3/4-10x4" Bolt	15	14		1	1.72		-1.72
F43888	1-8x4 1/2" Bolt	49	41		8	6.26		-50.08
F93505	9/16" Lock Washer	48	95	47		0.39	18.33	
F93506	5/8" Lock Washer	86	101	15		0.10	1.50	
F43517	7/16-14x1" Bolt	128	186	58		0.30	17.40	
F60303	7/16-14 Stover Lock Nut	87	86		1	0.20		-0.20
F43470	3/8-16x13/4" Bolt	94	88		6	0.30		-1.80
F60302	3/8-16 Stover Lock Nut	159	107		52	0.12		-6.24
F43427	5/16-18x2" Bolt	170	165		5	0.20		-1.00
F935801	5/16" Lock Washer	80	59		21	0.03		-0.63
18R1768CORE	Callper Core	2	1		1	26.40		-26.40
F41559	1/2-13x1 3/4" Carriage Bolt	50	73	23		1.22	28.06	
32064C	#64 Hose Clamp	17	15		2	1.05		-2.10
32001C	#1 Hose Clamp	30	28		2	0.47		-0.94
LFLAG	Flag Decal for L Side	61	63	2		3.04	6.08	
LICPLATE	Blank License Plate	17	15		2	2.42		-4.84
3AZ16	5mil nitrile XL Gloves 100pk	8	7		1	13.32		-13.32
1201	Leather Palm Glove 144/case	205	254	49		0.68	33.32	
04109	Conveyor Link Pin	3	4	1		3.09	3.09	
F2H28286S	Radiator Hose Lower	1	0		1	19.25		-19.25
9246	Nylon Clamps (Police Cars)	206	207	1		0.24	0.24	
F84937	Set Screw	34	35	1		0.01	0.01	
12153	Ring terminal 5/16"-3/8" Yellow	38	37	1		0.22	0.22	
1003048	Slot Fit Head Tapping Screws 8x3/4	55	54		1	0.01		-0.01
1024X14	Machine Screw 10-24x1/4	101	103	2		0.10	0.20	
15387	Machine Screw 10-24x1/4	227	275	48		0.01	0.48	
2543	10-24x1" Slotted Machine Screw	35	41	6		0.01	0.06	
5719	#10 Lock Washer	249	319	70		0.01	0.70	
F13293	Machine Screw 10-24x1/4	137	182	45		0.01	0.45	
11725	Connector	14	15	1		0.01	0.01	
8503	Cotter Pin	90	91	1		0.01	0.01	
16191	Lock Washer	28	29	1		0.01	0.01	
1157NA	Bulb	39	40	1		0.70	0.70	
9008	Bulb H13	2	3	1		11.29	11.29	
3905N	Oring #5	57	56		1	0.30		-0.30
62NTA4	1/4" Air Line Compression Union	2	4	2		3.77	7.54	
10118	External Retaining Ring 13/32"	129	123		6	0.50		-3.00
8697	Internal Retaining Ring 1"	85	63		22	0.50		-11.00
8827	E Clip 3/16"	231	209		22	0.50		-11.00
10050	Extruded U Nut 1/4-20	182	180		2	0.50		-1.00
190025	Rivet 1/8"x1.56/.3125 Grip	100	119	19		0.06	1.14	
10508	5MM/.8x30MM Bolt	96	95		1	0.50		-0.50
10528	8MM/1.25x50MM Bolt	128	80		48	0.50		-24.00
10569	4MMx.7 Hex Nut	155	152		3	0.20		-0.60
10581	8MM Flat Washer	205	206	1		0.20	0.20	
11256	8MM 1x20mm Bolt	29	28		1	0.50		-0.50
14459	12 MMx1.5 Nut	53	52		1	0.50		-0.50
1VT67	Protective Goggle	19	18		1	1.45		-1.45
8902222CORE	Battery Core	26	7		19	10.00		-190.00
P8	Propane 8 gallon Forklift Tank	4	3		1	16.93		-16.93
5A927	Grinding Wheels	4	6	2		2.11	4.22	
06336	1" Masking Tape	4	3		1	6.04		-6.04
1-1/2X3	crs	120	0		120	0.75		-90.00
1-5/8dia	crs	251	249		2	0.22		-0.44
1/4x1/2	crs	260	216		44	0.03		-1.32
M70	1"x10" Pin Upper Frame	4	3		1	9.49		-9.49
DPF4560GT	54" White Calendered Vinyl Sq/ft	513	675	162		0.29	46.98	
3689	Trisolv Stndrd Paper blk/whi135 Satin	390	1,800	1,410		0.35	493.50	
A-6583-0	30" Royal blue Vinyl Int sq/ft	400	375		25	0.35		-8.75
4X8SNTR3MYLW	4'x8' Sintra Yello 3 mil	0	128	128		0.80	102.40	
12X18BLNKR	12"x18" White Reflective Blank	35	43	8		5.38	43.04	
4075RLA-20	20" Tape	750	900	150		0.19	28.50	
4075RLA-6CLR	6" Tape Clear	300	360	60		0.14	8.40	
680CR71	30" Yellow Reflective Vinyl	300	225		75	3.10		-232.50
ASB3720	Protective Sleeve #20 Hose	6	7	1		3.23	3.23	
		<u>7,500</u>	<u>9,317</u>	<u>2,318</u>	<u>501</u>		<u>\$865.26</u>	<u>\$-753.46</u>

Net Variance-----\$-111.80

**TABLE II: Department of Environmental Services  
 Equipment Services Division  
 Stock Room Inventory – June 12, 2010  
 Variance Analysis of New Tire Parts  
Schedule of Inventory Variances Only**

<u>Stock</u> <u>Number</u>	<u>Part</u> <u>Description</u>	<u>Booked</u>	<u>Actual</u>	<u>Item Count Variance</u>		<u>Unit</u> <u>Cost</u>	<u>Dollar Variance</u>		
		<u>Quantity</u> <u>On Hand</u>	<u>Quantity</u> <u>Counted</u>	<u>Over</u>	<u>Short</u>		<u>Over</u>	<u>Short</u>	
24X12-12RN	Carlisle Turf Trac R/S 6Ply	1	2	1		\$ 58.06	\$ 58.06		
31580R22SFC	Bandag Waste Hauler Rib	13	12		1	131.85		\$-131.85	
75015TUBE	7.50-15 inner tube (in tire)	1	2	1		21.45	21.45		
P22560R16ASN	Eagle RSA 97V 732354500	74	79	5		71.51	357.55		
P22560R16NPASN	Assurance Fuel Max	<u>12</u>	<u>10</u>	-	<u>2</u>	72.79		<u>-145.58</u>	
		<u>101</u>	<u>105</u>	<u>7</u>	<u>3</u>		<u>\$437.06</u>	<u>\$-277.43</u>	
Net Variance.....									<u>\$ 159.63</u>

**TABLE III: Department of Environmental Services  
 Equipment Services Division  
 Stock Room Inventory – June 12, 2010  
 Variance Analysis of Used Tire Storeroom  
Schedule of Inventory Variances Only**

<u>Stock Number</u>	<u>Part Description</u>	<u>Booked</u>	<u>Actual</u>	<u>Item Count Variance</u>		<u>Unit</u>	<u>Dollar Variance</u>	
		<u>Quantity On Hand</u>	<u>Quantity Counted</u>	<u>Over</u>	<u>Short</u>	<u>Cost</u>	<u>Over</u>	<u>Short</u>
9R20FU	Used/ Repaired	2	3	1		\$100.00	\$100.00	
P22560R16ASU	Used/ Repaired	9	7		2	25.00		\$-50.00
P21560R16RU	Used /Repaired	<u>0</u>	<u>1</u>	1	-	25.00	<u>25.00</u>	
		<u>11</u>	<u>11</u>	<u>2</u>	<u>2</u>		<u>\$125.00</u>	<u>\$-50.00</u>
Net Variance .....								<u>\$ 75.00</u>

**TABLE IV: Department of Environmental Services  
 Equipment Services Division  
 Stock Room Inventory – June 12, 2010  
 Variance Analysis of RPD Auto Parts  
Schedule of Inventory Variances Only**

<u>Stock Number</u>	<u>Part Description</u>	<u>Booked</u>	<u>Actual</u>	<u>Item Count Variance</u>		<u>Unit</u>	<u>Dollar Variance</u>	
		<u>Quantity On Hand</u>	<u>Quantity Counted</u>	<u>Over</u>	<u>Short</u>	<u>Cost</u>	<u>Over</u>	<u>Short</u>
ANTIZAP	Vehicle Surge Protector	39	38		1	\$45.95		\$ -45.95
TDC850007F	Arrow Stick Control box	53	52		1	64.36		-64.36
LC5850007F	Siren Amplifier	59	55		4	54.46		-217.84
Radiospeaker	Speaker for Radio	73	76	3		23.84	\$71.52	
Shotgunlock	Shot Gun Lock	<u>28</u>	<u>24</u>	-	<u>4</u>	82.98		-331.92
		<u>252</u>	<u>245</u>	<u>3</u>	<u>10</u>		<u>\$71.52</u>	<u>\$-660.07</u>
Net Variance .....								<u>\$-588.55</u>



To: Jim Sheppard / Office of Public Integrity *JS*  
From: Paul Holahan, Commissioner / DES *P.H.*  
Date: October 18, 2010  
Subject: Equipment Services Stockroom Inventory Audit



The Equipment Services division has completed its annual stockroom audit. This was completed on June 12, 2010. The last physical audit was conducted in May of 2009. The Office of Public Integrity (OPI) observed these inventories.

The results of the Equipment Services stockroom inventory audit are as follows.

- The main auto parts storeroom is comprised of almost 4,050 line items with a value of approximately \$298,116. There was an increase in the variation rate from 2% to 16%.
- The new tire room inventory is comprised of 98 line items with a value of approximately \$33,552. There was an increase in the variation rate from 2% to 5%.
- OPI noted that stockroom personnel had shipped 48 items to vendors for credit, however did not remove these items from the perpetual inventory records.
- Additionally, OPI noted 97 duplicate line items on the perpetual inventory system which negatively impacted variance calculations.

As recommended by the OPI; Equipment Services will identify causes of variances and possible weaknesses in our procedures. We will implement sound corrective actions to continually improve our operation and make inventory control a priority for the additional storerooms. Some of the corrections are as follows,

- Audit results show errors in Table 1, schedule of inventory variances. This table was used in the calculation of the 16% variation. Equipment Services has notified OPI, and new calculations will be reflected in the final audit results.
- Equipment Services along with OPI have determined that parts with a unit cost of \$2.00 or less will be counted differently. Stockroom personnel will order these items in smaller package quantities and issue only by package. Examples of these items are in Table 1.

- The causes for the new and used tire inventory variations have been found. There were both errors in the audit and internal Equipment Services procedures. Procedures have been updated, and stockroom personnel will be trained on this update.
- Items returned for credit have since been removed from the perpetual inventory. A procedural change has been made and stockroom personnel will be trained on the change.
- Duplicate line items were due to the creation of the seasonal storeroom 102. When this storeroom was created the stockroom did not remove the duplicate part numbers. Since audit results have come in this storeroom has been closed. All 115 line items with a value of \$137,821.49 have been returned to the main storeroom.

Equipment Services personnel will accurately update ALL counted inventory items on the automated inventory system. Personnel will correct current errors on the perpetual inventory so errors will not carry over into future periods.

We are planning our next physical inventory for June 2011 to ensure our corrective actions are successful. Please contact me at your earliest convenience for further discussion or comments.

Thank you

xc:

Mary Gaudioso Assistant Commissioner DES  
Chris Wagner Director of Operations  
Mike Quattrone Asst. Director of Operations