



STATE OF WASHINGTON  
DEPARTMENT OF LABOR AND INDUSTRIES  
Division of Occupational Safety and Health  
PO Box 44600 • Olympia, Washington 98504-4600

September 29, 2016

KING COUNTY  
ATLANTIC MAINT BASE  
500 4th Ave Suite 500  
Seattle, WA 98104

OSHA #: 1157338  
Inspection: 317941132  
UBI: 578037394  
Region: 2-Safety  
Inspector ID: M7618  
Reference: 209476493

Dear Employer:

Enclosed are the results of the safety and health inspection of your workplace. This packet contains:

- **Citation Invoice** – The total assessed penalty is \$10,800.00
- **Citation and Notice of Assessment** – Washington Administrative Code (WAC) Violations.
- **Employer Certification of Abatement instruction and form** - Correct all violations and return written verification or additional penalties may result.
- **Employer Appeal Rights** – You have 15 working days to appeal this citation.

You must immediately post this Citation and Notice of Assessment at or near where the violation(s) occurred, where employees can easily find and read it, or where employees normally receive posted information. All postings must remain until you have corrected all violations, or for three working days, whichever is longer. “Working day” means a calendar day, except Saturdays, Sundays and all legal state holidays.

Because this inspection is public information, the result will be posted online 30 days after the above date by the Department of Labor & Industries. You may view it at <https://secure.lni.wa.gov/verify/>.

**If you have questions, call the compliance supervisor, Jeffrey Krausse, at (509) 764-6908.**

Respectfully,

*Anne F. Soiza*

Anne F. Soiza  
L&I Assistant Director  
Division of Occupational Safety & Health

Enclosure(s)



Washington State Department of  
**Labor & Industries**  
*Division of Occupational Safety and Health*

## **Invoice**

**Inspection: 317941132**

**UBI:** 578037394  
**Legal Name:** KING COUNTY  
**DBA Name:** ATLANTIC MAINT BASE  
**Inspection:** 1555 Airport Way S,  
**Site:** Seattle, WA, 98134

**Issued:** September 29, 2016  
**Opening Conference:** May 23, 2016  
**Closing Conference:** September 15, 2016  
**Inspector ID:** M7618

### **Summary of Assessed Penalties Due**

The Citation and Notice of Assessment includes a full description of each violation.

<b>Violation Item</b>	<b>Violation Type</b>	<b>WAC</b>	<b>Correction Due Date</b>	<b>Penalty Amount</b>
1-1	Serious	WAC 296-800-14020	11/1/2016	\$5,400.00
1-2	Serious	WAC 296-803-70005	11/1/2016	\$5,400.00
<b><u>Total Penalty Due</u></b>				<b>\$10,800.00</b>

### **PAYMENT INFORMATION**

**Payment is due 15 working days from receipt of this citation.**

Make check payable to the Department of Labor and Industries.

Write Inspection number 317941132 on the check and mail to:

**Attn: DOSH Cashier**  
**Department of Labor and Industries**  
**PO Box 44835**  
**Olympia, WA 98504-4835**  
Or deliver to: **Any L&I office**



## Post This Document

# Citation and Notice of Assessment Inspection: 317941132

**UBI:** 578037394

**Issued:** September 29, 2016

**Legal Name:** KING COUNTY

**Opening Conference:** May 23, 2016

**DBA Name:** ATLANTIC MAINT BASE

**Closing Conference:** September 15, 2016

**Inspection Site:** 1555 Airport Way S Seattle, WA 98134

**Inspector ID:** M7618

### **Violation 1 Item 1**

**Violation Type:** Serious

**WAC 296-800-14020**

For this instance the employer did not effectively implement, and enforce training programs to improve the skill, awareness, and competency of the mechanics and electrical technicians working on the New Flyer battery assisted trolleys.

Multiple employees working 3 shifts, 24 hours a day, seven days a week are exposed to high voltage direct current electrical hazards of 600 to 750 volts at the Atlantic Base, 1555 Airport Way S., Seattle, WA 98134. Contact with high voltage direct current may cause death or serious physical injury.

The following additional correction documentation is required for this violation:  
Provide documentation that a training program is being developed that will include awareness of high voltage specific hazards. For example, some suggestions, but not limited too: proper PPE, use and care of live line tools, and MAD to name a few.

**Correct by: 11/1/2016**  
**Assessed penalty: \$5,400.00**

### **Violation 1 Item 2**

**Violation Type:** Serious

**WAC 296-803-70005**

For this instance, the employer did not ensure a periodic review was done with the employees to evaluate any improper energy control procedure.

The mechanics and electronic technicians at King County Metro Atlantic Base, 1555 Airport Way S., Seattle, WA 98134, are subject to possible electrocution hazards from management not reviewing and correcting improper LOTO procedures. Contact with 750 volts of high voltage direct current may cause death or serious physical injury.

The following additional correction documentation is required for this violation:  
Documentation showing that the procedure to perform periodic reviews according to 803-70005 is being developed.

**Correct by: 11/1/2016**  
**Assessed penalty: \$5,400.00**

## Employer Certification of Abatement Instructions Inspection: 317941132

### What you must do now:

- Check the correction due date(s) shown on the enclosed Employer Certification of Abatement Form. You must fully correct the hazards by these dates.
- Describe on the form how you corrected each hazard, rather than what you *intend to do* in the future. Examples:

**Right:**            *All staff have received the required training.*

**Wrong:**          *All staff will receive the required training next week.*

Use attachments if you need more space. Submit additional documentation of hazard correction if requested in the citation packet.

- Fill in the date you corrected the hazard and sign.
- Post a copy of the completed form for at least three working days, or until you have corrected all violations, whichever is longer. It must be posted near the hazard location or in a place that is readily accessible by affected employees and their representatives.
- Send your completed form to the address provided.

**Note:** If we do not receive written confirmation you have corrected the hazards, we will take follow-up action, which may include additional penalties. If you provide us with false information, you may face criminal penalties.

### If you are unable to fix the hazard(s) by the correction due date(s):

We must receive your written request for an extension **before** the correction due date(s) listed for the hazard(s). Correction due dates are shown on the enclosed Citation and Notice of Assessment and on your Employer Certification of Abatement Form(s).

Extensions are not automatically granted. To be considered for an extension, you must provide the following:

- Inspection number, employer name, telephone number, and site address.
- Violation and Item number for each requested extension.
- Correction due date on the citation and additional time needed.
- Steps taken to fix the hazard by the correction due date.
- Why you cannot correct the hazard by the correction due date.
- How you will protect your employees until you fix the hazard.

For more information, contact:  
Or call: (509) 764-6908

Jeffrey Krausse, Compliance Supervisor  
Department of Labor and Industries  
3001 W Broadway  
Moses Lake, WA 98837

You must post all documentation associated with your request for extension with your citation packet. All postings must remain until you have corrected all violations, or unless you have appealed and received and posted your hearing notice.





# Employer Certification of Abatement Form

## Inspection: 317941132

**UBI:** 578037394

**Legal Name:** KING COUNTY

**Site Address:** 1555 Airport Way S, Seattle, WA, 98134

**Issued:** September 29, 2016

**DBA Name:** ATLANTIC MAINT BASE

**You must complete this form and return it to:** **GEORGE(Dick) MAXWELL, Department of Labor & Industries**  
**12806 Gateway Drive S, Tukwila, WA 98168**  
Or Fax to: **(206) 835-1036**

Violation(s) are fully described in the Citation and Notice of Assessment section.

Violation, Item & Group#	Type of Violation	WAC# Violated	Correction Due Date
1-1	Serious	WAC 296-800-14020	11/1/2016

**How you corrected the hazard →**

**Date you corrected the hazard →**

1-2	Serious	WAC 296-803-70005	11/1/2016
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**How you corrected the hazard →**

**Date you corrected the hazard →**

I certify that the hazards described in this Employer Certification of Abatement Form have been corrected as described above. Affected employees and their representatives have been informed of the correction activities. I am aware that knowingly providing false information may result in criminal penalties (RCW 49.17.190(2)).

Signature

Name

Title

Date

Phone No.

**DOSH USE ONLY**

DOSH Reviewer's Signature

Date

## For Employers

If you are cited for a violation of Occupational Safety and/or Health rules, you have the right to appeal the citation. **You have 15 working days from the date you receive this citation to appeal.** (RCW 49.17.140(1)) "Working day" means a calendar day, except Saturdays, Sundays and all legal state holidays. Your appeal must be in writing. It may be mailed, faxed, or personally delivered.

For violations classified as serious, willful, repeat serious, or failure to abate serious, an employer must correct the violations by the date listed on the Citation and Notice / Employer's Certification of Abatement form unless a stay of abatement date is requested in the appeal as described on this page. A stay of abatement date means the employer's requirement to abate or correct the hazard is put on hold until the appeal is resolved. All general and repeat general violations under appeal automatically have stay of abatement dates until a final order on those violations has been issued. If you only need an extension of an abatement date, please see the above section entitled, **"If you are unable to fix the hazard(s) by the correction due date(s)"**.

### Your appeal must include:

- Name, address, telephone number, and fax number if available of the employer who is appealing, and for the employer's representative, if any, such as an attorney or interpreter.
- Inspection Number (You will find this nine-digit number in the top right corner of this page.)
- Statement explaining:
  1. What you think is wrong with the citation and any related facts.
  2. How you think the citation should be changed.
  3. What relief you are seeking and why.

**If you are requesting a stay of abatement date for serious, willful, repeat serious or failure to abate serious, you must also include:**

- Each violation and item number for which a stay of abatement date is requested; and
- The reason for the stay of abatement date request.

Note: Employees and/or employee representatives may elect to participate in appeal hearings.

## Posting requirement:

You must post your appeal documents (along with this citation packet) until the appeal is resolved.  
You must also post all other documents related to this appeal.

## For Employees or Their Representatives

If your employer is cited, you may only appeal the correction due date(s).

### Your appeal must include:

- Your name, address, telephone number, and fax number if available and the same information for anyone who is representing you, if any.
- Inspection number.
- Statement explaining why the correction due date should be changed.

### Send all appeals to:

**Assistant Director for DOSH**  
**Attn: Appeals Program**  
**PO Box 44604**  
**Olympia, WA 98504-4604**  
Fax to: **(360) 902-5581** or deliver to: **Any L&I office**

For more information call the Appeals Program: **(360) 902-5486**.

KING COUNTY  
ATLANTIC MAINT BASE  
500 4th Ave Suite 500  
Seattle, WA 98104

KING COUNTY  
ATLANTIC MAINT BASE  
500 4th Ave Suite 500  
Seattle, WA 98104

# Enforcement Case File Information

[Complaint Information](#) • [Inspection Information](#) • [Attachments](#) • [Violation Information](#) •  
[Case File Checkout Card](#) • [View ARC](#) • [Citation](#) • [Summary Report](#) • [Letters](#)

## Enforcement Complaint Information

<b>Complaint #</b>	<b>Inspection Number / Program</b>	<b>UBI / Bus Loc</b>	<b>Account ID / Site Region</b>			
209476493	317941132 / Safety	578037394 / 553388	70010100 / 1055320			
<b>CSHO ID / CSHO Name</b>		<b>CSHO Region</b>	<b>OSHA Complaint Number</b>			
M7618 / GEORGE(DICK) MAXWELL		1055380	1094409			
<b>Primary NAICS</b>	<b>Primary NAICS Description</b>					
926120	REGULATION AND ADMINISTRATION OF TRANSPORTATION PR					
<b>Site Address</b>		<b>Mailing Address</b>				
ATLANTIC MAINT BASE 1555 Airport Way S Seattle, WA 98134		ATLANTIC MAINT BASE 500 4th Ave Suite 500 Seattle, WA 98104				
<b>List of Sources</b>						
Source Name	Source Type	Last Letter Sent	Date Sent	Phone	Email	Confidential
Whitehead, Mike	Employee Representative			(206) 448-8588		N
<b>Employer Complaint Letters</b>						
No Employer Letters Found						
<b>Management Official</b>	<b>Title</b>	<b>Phone</b>		<b>Email</b>		
John Alley	Manager Bus Maint.					
<b>Type of Business</b>		<b>Type of Activity</b>		<b>Case Received Date</b>		
Transit coach maint.		Complaint		9/26/2016		
<b>Description and Location of Hazard</b>						
Currently there are over 650 maintenance personal who are around or inside a bus performing various maintenance tasks. As their business Agent I continually hear their concerns of voltage when in conversations with the members I represent. Concerns of not adequate training and the handling of 700 volts. Safety training and repair procedures with regards to 700 volt. Bus fleet series in question but not limited to #7000, #8000' 4300's. Recent reports of mechanics being shocked while maintaining and repairing said coaches. Need to validate procedures and practices when doing repair and maintenance of said coaches' Review repair processes at all 6 operating repair facilities to verify process set by management is safe						
<b>Received By</b>	<b>Assigned To</b>	<b>Assigned Supervisor</b>		<b>Date-Time Received</b>		
B0816	M7618 GEORGE (DICK) MAXWELL	B0816 JEFFREY KRAUSSE		5/23/2016 - 10:00 AM		
<b>Complaint Valid</b>	<b>Inspection Planned</b>	<b>Number of Days</b>		<b>Send Letter</b>		
Yes	Yes	10		No		
<b>Formality</b>	<b>Receipt Type</b>	<b>Justification</b>				

			<b>Reason For Inspection</b>
Formal	Mail		Complaint Received
<b>Inspect By</b>	<b>Reason No Inspection</b>		<b>Hospitalization</b>
6/7/2016			No
<b>Evaluated By</b>	<b>Severity</b>	<b>Migrant Farm Camp</b>	<b>Emphasis Information</b>
B0816 JEFFREY KRAUSSE	Serious	No	
<b>Transfer To Name</b>	<b>Date of Transfer</b>	<b>Transfer To</b>	<b>Reporting ID/Code</b>
<b>Transfer Comment</b>			

## Enforcement Inspection Information

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<b>Inspection Number / Program</b>	<b>Triggering Activity</b>	<b>UBI / Bus Loc</b>	<b>Account Number</b>	
317941132 / Safety	209476493	578037394 / 553388	70010100	
<b>Establishment DBA / Legal Name</b>	<b>Legal Entity</b>	<b>Assignment Type</b>	<b>Site Region</b>	<b>Inspection Scope</b>
ATLANTIC MAINT BASE / KING COUNTY	State/Local Govt	Complaint	1055320	Partial
<b>CSHO ID / CSHO Name</b>	<b>CSHO Region</b>	<b>Target List / Rank</b>	<b>On List</b>	<b>OSHA Inspection Number</b>
M7618 / GEORGE(DICK) MAXWELL	1055380	None	Y	1157338
<b>Primary NAICS</b>	<b>Primary NAICS Description</b>			
926120	REGULATION AND ADMINISTRATION OF TRANSPORTATION PR			
<b>Site NAICS</b>	<b>Site NAICS Description</b>			
926120	REGULATION AND ADMINISTRATION OF TRANSPORTATION PROGRAMS			
<b>Site Address</b>		<b>Mailing Address</b>		
ATLANTIC MAINT BASE 1555 Airport Way S Seattle, WA 98134		ATLANTIC MAINT BASE 500 4th Ave Suite 500 Seattle, WA 98104 Phone: (206) 477-3362 Fax: (206) 296-0514 Email: laura.merritt@kingcounty.gov		

### Representatives

Name	Title	Participation	Type	Email
Bruce Lilquist	Atlantic base Superintend	Opening Conference, Walk-Around	Management Official	
James Wells	Safety and Health adminis	Opening Conference, Walk-Around, Closing Conference	Management Official	
Darryl Russell	Transit Safety Mgr.	Closing Conference	Management Official	
Bill Marion	Mechanic	Walk-Around	Employee Rep.	
Paul Stoppleworth	Mechanic	Walk-Around	Employee Rep.	
Bill Ritter	Mechanic	Walk-Around	Employee Rep.	
Roy Martinsen	Mechanic	Walk-Around	Employee Rep.	
Kermit Gipson	Electronic Tech.	Walk-Around	Employee Rep.	

### Other Languages Spoken

No Other Language records to display.

### Additional Citation Mailings

Attention	Address	Bus Phone	Fax	Email

Darryl Russell	11911 East Marginal Way South,, Bldg A Tukwila WA 98168		darryl.russell@kingcounty.gov
James Wells	11911 East Marginal Way South,, Bldg A Tukwila WA 98168		james.wells@kingcounty.gov

<b>Related Activities</b>	
OSHA Number	Type
209476493	Complaint

<b>Advance Notice</b>	<b>Opening Conference Date/Time</b>	<b>Site SIC/NAICS</b>	<b>Type of Operation</b>
No	5/23/2016 - 2:20 PM	/ 926120	Transit
<b>Inspection Type</b>	<b>Days Site Visited</b>	<b>Inspection Scope</b>	<b>Reason No Inspection</b>
Complaint	4	Partial	

<b>Asbestos Certifications</b>	
No Certifications Found	

<b>Local Emphasis Program</b>	<b>National Emphasis Program</b>	<b>Special Tracking Information</b>	<b>Cranes</b>
<b>Multi-Employer Controlling Inspection Number</b>	<b>Focused Inspection: Controlling Employer</b>	<b>Focused Inspection: Sub-Contractors</b>	<b>Employers On Site</b>
	No	No	

<b>Immediate Restraint</b>	<b>Red Tag Number</b>	<b>Union</b>	<b>Hospitalization</b>
No		Yes	No
<b>Employees On Site</b>	<b>Employees Covered By Inspection</b>	<b>Employees Controlled Nationwide</b>	
80	10	14830	
<b>Employee Participation</b>	<b>Closing Conference Date/Time</b>	<b>Citation Issued/Date</b>	<b>Case Received Date</b>
Walkthrough, Interviewed	9/15/2016 - 3:30 PM	Yes 9/29/2016	9/26/2016
<b>Citation Sent Date</b>	<b>Citation Delivery Status</b>	<b>Citation Delivery Status Date</b>	
9/29/2016	DELIVERED	10/4/2016	

<b>Citation and Notice Messages</b>			
<b>Route to P&amp;TS</b>	<b>Reason</b>	<b>Other Reason</b>	
No			
<b>Anticipatory Warrant/ Subpeona Served</b>	<b>Non-Anticipatory Warrant/ Subpeona Served</b>	<b>Date Denied</b>	<b>Date Re-entered</b>
None	None		

	<b>CSHO Supervisor</b>	<b>Supervisor Approved Date /</b>	<b>Send C &amp; N?</b>	<b>Case Closed Date</b>

<b>CSHO Approved Date / CSHO Approved</b>		<b>Supervisor Approved</b>		
9/20/2016 / M7618 GEORGE (DICK) MAXWELL	B0816 JEFFREY KRAUSSE	9/21/2016 / B0816 JEFFREY KRAUSSE	Yes	

#### Inspection Summary

This complaint inspection was opened by Maxwell on 5-23-2016 at 1555Airport Way South Seattle Atlantic base.

The closing was held on 9-15-2016 at 11911 East Marginal Way South Bldg. A Tukwila.

This complaint was initiated by the Amalgamated Transit Union Local 587 whose concerns are listed in the complaint. The main issue was inadequate training specific to the New Flyer Hy-Brid Trolley, coach series 4300 and 4500. There had been an electrical contact by an employee of 311 volts while he was inspecting the coach. The hot coach detector was not working and failed to warn of the now energized coach. During the investigation interviews the mechanics main concerns were lack of training on electrical, 480 volt heaters miss-wired, trolley poles dropping and the manual was written in German. KCM was cited WAC 296-800-14020 for training. The inspection also revealed a lax LOTO program and KCM was cited for not having an annual review according to WAC 296-803-70005.

#### OSHA 300 Information

Year	OSHA 300 Data	OSHA Log Information	Hours Worked By All Employees	Annual Average Number of Employees	DART Rate	
2015	Yes	358	24124335	14830	3.0	<a href="#">View</a>



## Letters - Case

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Description	Create Date	View
Employer Copy of Complaint	5/23/2016	<a href="#">View</a>
Closing Conference Highlights	9/19/2016	<a href="#">View</a>
Citation	9/27/2016	<a href="#">View</a>

## Attachments - Inspection Report

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Description	Notes	Create Date	View
Inspection Photos		9/26/2016	<a href="#">View</a>
Other	Requested documents and programs	9/26/2016	<a href="#">View</a>
Initial Inspection		9/26/2016	<a href="#">View</a>

## Attachments - Confidential

Description	Notes	Create Date	View
Initial Confidential Documents	OSHA log	9/26/2016	<a href="#">View</a>
Initial Confidential Documents	Employee Interviews	9/26/2016	<a href="#">View</a>

## Enforcement Violation Information

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Inspection Number / Program		Triggering Activity		UBI / Bus Loc		Account Number		
317941132 / Safety		209476493		578037394 / 553388		70010100		
Establishment DBA / Legal Name				Assignment Type / Site Region		CSHO / CSHO Region		
ATLANTIC MAINT BASE / KING COUNTY				Complaint / 1055320		M7618 GEORGE(DICK) MAXWELL / 1055380		

Violation	Item	Group	Type	Standard	Penalty	Instances	Abatement Days/Date	Date Corrected
1	1		S	296-800-14020	5,400.00	1	11/1/2016	
1	2		S	296-803-70005	5,400.00	1	11/1/2016	
Total Penalty: \$10,800.00								

<b>Inspection Number / Program</b>		<b>UBI / BusLoc</b>		<b>CSHO ID / CSHO Region</b>	
317941132 / Safety		578037394 / 553388		M7618 / GEORGE(DICK) MAXWELL / 1055380	
<b>Triggering Activity</b>		<b>Account Number</b>		<b>Assignment Type / Site Region</b>	
209476493		70010100		Complaint / 1055320	
<b>Violation #</b>	<b>Item #</b>	<b>Group</b>	<b>Standard Violated</b>		
1	1		296-800-14020		
<b>Type</b>	<b>Number of Instances</b>	<b>Number of Workers Exposed</b>	<b>Related Event Code</b>	<b>Previous Inspection # (for repeat or FTA)</b>	
S	1	2	Complaint		
<b>Abatement # of Days/Date</b>	<b>Immediate Restraint</b>	<b>Egregious</b>	<b>Substance</b>	<b>Abatement Documents Required</b>	
11/1/2016	No	No		Yes	
<b>Date Corrected</b>	<b>Complied During Inspection</b>	<b>Date Verified</b>	<b>How Verified</b>	<b>Date/Time Violation Identified</b>	
	No			5/23/2016 2:20 PM	
<b>Statutory Penalty</b>	<b>Asbestos Good Faith</b>	<b>Asbestos # of Days</b>	<b>Severity</b>	<b>Probability</b>	
No	No		3	2	
<b>Gravity</b>	<b>Gravity Based Penalty</b>	<b>Faith / Adj</b>	<b>Size / Adj</b>	<b>History Adj</b>	
6	6000.00	Good -1,200.00	251+ 0.00	Below 600.00	
<b>Quick Fix / Adj</b>	<b>Adjusted Subtotal</b>	<b>Calculated Base</b>	<b>Adjusted Base</b>	<b>Base Applied</b>	
No 0.00	-600.00	5,400.00	5,400.00	5,400.00	
<b>Base Applied Override Justification</b>					
N/A					
<b>Willful Factor Number</b>	<b>Repeat Factor Number</b>	<b>FTA Factor Number of Days</b>	<b>Calculated Penalty</b>	<b>Assessed Penalty</b>	
N/A	N/A	N/A	5,400.00	5,400.00	
<b>Assessed Applied Override Justification</b>					
N/A					
<b>AVD</b>	<p>For this instance the employer did not effectively implement, and enforce training programs to improve the skill, awareness, and competency of the mechanics and electrical technicians working on the New Flyer battery assisted trolleys.</p> <p>Multiple employees working 3 shifts, 24 hours a day, seven days a week are exposed to high voltage direct current electrical hazards of 600 to 750 volts at the Atlantic Base, 1555 Airport Way S., Seattle, WA 98134. Contact with high voltage direct current may cause death or serious physical injury.</p>				

<b>Message</b>	The following additional correction documentation is required for this violation: Provide documentation that a training program is being developed that will include awareness of high voltage specific hazards. For example, some suggestions, but not limited too: proper PPE, use and care of live line tools, and MAD to name a few.
<b>How Complied</b>	
<b>Violation Summary Text</b>	
<b>Documentation</b>	<p>What was the hazard and location?  Training addressing the specific electrical, and mechanical hazards associated with the New Flyer Hy-brid Trolley such as the proper voltage testing procedure, use and care of electrically rated tools, to include voltage tester, live line tools, arc protective wear, rubber insulating gloves. The minimum approach distance for the voltage. King County Metro Atlantic Base 1555 Airport Way S Seattle.</p> <p>What were the applicable measurements or exposure data? (Make, Model, Serial Number, Height, Etc.)  New Flyer coach 4300 and 4500 series battery pack is 600 volts direct current, the overhead trolley is 750 volts direct current. There is also an inverter changing the direct current to three phase 480 volt alternating current which operates the air compressor and cabin heaters, three phase 435 volt alternating current to the propulsion motor. The measured voltage for the electrical contact was 311 volts. The electrical contact was from coach number 4369</p> <p>How are employees exposed to the hazard?  For the instance of the high voltage hazards the employees have not had the necessary training to gain proficiency in recognizing the associated electrical hazards with the New Flyer 4300 and 4500 series coach. And the familiarity with abating those hazards. This could lead to the employees, violating the MAD minimum approach distance of 13 inches, not being trained to use appropriate arc protective clothing when necessary, and working on energized equipment when it should have been Locked and tagged out (LOTO). In addition there has not been training in how to handle the issue of the trolley poles dropping which is another safety concern brought up in the interviews.</p> <p>How long has the hazard existed?  This has existed since the coaches were put into service approximately one year from the fall of 2015 to present 8-2016.</p> <p>Employee Exposure Information: (Name and Job Title)  Tim Nguyen Mechanic approximately 5 months at KCM one month at Atlantic Base no overhead trolley experience. Paul Stoppleworth mechanic twelve month employee on graveyard shift. Chris Zwiefelhofer lead mechanic supervisor role 28 years in the trade. Ray Martinsen mechanic, Ken Peterson lead mechanic 19.5 years in the trade, Bill Ritter mechanic, Arvin Vulliet mechanic, Kermit Gipson electronic tech., Bill Marion mechanic 36 years as mechanic now an inspector, Tom O'Bannon lead electronic tech. 27 year employee.</p> <p>The complaint is based on high voltage hazards at the Atlantic Base. There was a specific high voltage contact that was received by an employee which helped initiate the complaint. The above mentioned employees are the ones that were interviewed for this instance.</p>

What did employee(s) say about this violation/hazard? Statements from confidential employee interviews.

We are usually trained months in advance of a new coach coming on line but for this coach 43 and 4500 series management wanted it out and running. We had no training for the New Flyer 43 and 4500 series coach. We had no idea there was a minimum approach distance to energized parts. We initiated a fix for the trolley poles and a way to detect if the hot coach detector was operable but due to possible warranty issues with New Flyer and Vissloh Kiepe traction power supplier. We have had some electrical hazard awareness training, some LOTO training but nothing formal as in a classroom mostly ojt. We used to have safety meetings but due to the lean project we now do group Huddles. What manual we had was in German. BAE taught us about gloves, arc protection, face shields but we don't use these, a month and a half ago I was observing our vendor and asked the lead if I should be using this stuff. He answered probably should.

Notes from phone conversation:

1. New coaches 4300, 4500, 40& 60 footers.
2. Last week ee shocked 285 volts hot coach alarm not working. Our mgmt. has known of this issue.
3. These coaches are 750 volt trolleys when poles come down it will run on 600 volt battery 1000's of amps.
4. Hot coach detector senses volt. will give audible & visual alarm.
5. In our other coaches when fails it will give an audible and visual alarm. The driver then shuts the coach down pulls the poles off the trolley and the mechanics tow it to the shop.
6. 100+ new coaches the coach detector is not working & not programmed to send out visual or audible alarm. If the coach comes hot the driver will not be aware and he will not pull the poles off the trolley. Passengers and workers could be electrocuted.
7. They came and did tests today, the have never been checked because there isn't a way to check them.
8. No class or training on these coaches. Every thing by trial and error on these coaches.
9. Went to some type of electrical class, instructor Kim Martin. They let us know that this did not make us qualified to work on this equipment.
10. Another issue; we can turn off the power in our shop they are Pringle contact switch that can be locked out. But people just put the key on top of the box so anyone can use it. Today someone stopped a person from turning it on because a guy was on top of the bus. In our shop 700 volt 1000 amp service.
11. This issue is at the Atlantic base but can be at anyone of the bases with hybrid coach.
12. A mechanic was going to perform a test by putting a screw driver across the battery poles.
13. I asked "why don't you red tag the coaches"?
14. They are in the process of studying and trying to upgrade but the busses will continue to go on the road.
15. Information is still in German we have had them for over a year.
16. Six months ago they promised us they would take care of this.
17. We have a green card at work that gets safety involved we will fill these out and mgmt. has to look at this internal safety can't sweep it under the rug.

18. If they knew I was talking to you it would not be a good thing.
19. Meeting today with top brass they now know, mechanics know lead mech. know, superintendent knows.
20. We were made aware today of this hot coach issue. We had not had training, other busses we have had classes for days on end.
21. That's why we went to Tukwila to complain no training.
22. We had a huddle and asked why Bill got shocked, the E Tech. explained.
23. The system is isolated from the coach. A mount can fail, wire can make contact etc.
24. I asked if there was a process of testing for voltage, or grounding prior to touching, and also will the batteries produce the hot coach situation. The answer I don't know.
25. Our test today showed when the system works at 50 volts an alarm at 60 volts the poles come down and the bus shuts off.
26. These are new issues since the original complaint which was about training.
27. They also talked about the perfect storm where several things failed and another person got shocked

What did management say about this violation/hazard?

All the coaches have been tested and are safe to make revenue.

The 480 volt heater issue has been resolved.

In the preliminary accident report KCM findings were:

1. The injured was allowed to transport himself to Group Health he was not provided transportation.
  - a. The mechanics who provide service on the 4300 and 4500 and BAE/ESS (energy storage system) system type coaches do not feel they are properly trained.
  - b. The lock out tag out boxes shutting the power off is shared by the other bays in the shop, and creates a hazard because of bays not being able to independently lockout and tagout.
2. The electrical safety program policy and procedures were not followed by the lead mechanic and the injured.
3. Inadequate or no training for the new fleet of coaches (4300).
4. There was no work order record of anyone ( to include VK) performing any work on this coach 4369. This includes Central Base.
5. Vissloh Kiepe/ New Flyer (VK/NF) does not provide documentation of work performed.
6. There was no record of who disconnected the X60 snap connector. The service manual for the new fleet is not available yet fully in English.
7. There are three redundant systems in place. There is a fourth being tested.
8. There was no immediate report to management by the mechanic or the lead.
9. The hot coach did not provide any warning do to a disconnected power supply at X60 roof top compartment (RTC).

	10. The coach went into revenue service that morning before the incident.
<b>Severity</b>	3- Contact with high voltage direct current may cause death or serious physical injury.
<b>Probability</b>	<p>Frequency of exposure/number of employees exposed: Multiple employees approximately 80 mechanics working 3 shifts 24 hours a day seven days a week exposed to high voltage direct current electrical hazards of 600 to 750 volts at the Atlantic Base 1555 Airport Way S Seattle.</p> <p>Instances or number of times the hazard is identified in the workplace: For this complaint inspection there had been an electrical contact of 300+ volts. This one instance provoked the employees to examine the training and led to the Union ATU Local 597 filing a safety complaint.</p> <p>Employee proximity to the hazard: For the electrical hazard, associated with the lack of training Hands on.</p> <p>Weather and other working conditions: Inside a shop. But the coaches will come in wet from the weather exposure.</p> <p>Employee skill level and training: Journey level mechanics and electrical technicians.</p> <p>Employee awareness of the hazard: They are aware of hazards associated with the trolleys and with the diesel hy-brid but not the trolley battery assist hy-brid.</p> <p>Pace/speed/nature of task/work: For the New Flyer 4300 and 4500 series coaches there was a push by management to get them into revenue service.</p> <p>Use of personal protective equipment: Fall protection is worn there is the availability of arc protective wear in the warehouse.</p> <p>Other mitigating or contributing circumstances (Mitigating circumstances may lower the probability; contributing may raise the probability):</p> <p>A mechanic observed the service provider wearing PPE such as Arc protective clothing and commented to the lead should we be wearing that.</p>
<b>Quick Fix</b>	
<b>Good Faith</b>	<p>Is management's commitment at all levels apparent? There is an APP, an electrical safety vehicle maintenance program, along with other required programs.</p> <p>Are employees clearly involved in the safety and health programs? There is a safety committee but upon examination of the requested meeting notes nothing seems to get resolved. They used to have safety meetings but now they have huddles.</p> <p>Are the safety and health policies communicated and applied? Not at the time of the incident. But the current Safety and Health Administrator IV Atlantic Base James Wells is changing all that.</p> <p>Is there evidence of the overall safety and health program, including a written</p>

accident prevention program (APP), other required written programs, training, etc.? Yes.  What is the employer's injury and illness rate? ----- 578037394 KING COUNTY SI: Y STAT: O TYPE: X ACCT: 700,101-00 ----- * Business Information Inactive: DBA: KING COUNTY Busloc/Aka: * Legal Owner: 0 Mail: 500 4TH AVE SUITE 500 Expr Fctr: Cmptr Expr: Addr: * SEATTLE, WA 98104 Ownership: Cnt/City BM NAICS: 921110 * Cont: MERRITT, LAURA Phone: 206 477-3502 SIC: 9111 Num Pls: 184 * Claims 1 Year * Range 09/03/2015 - 09/03/2016 Cnt 899 Costs 442,529 by UBI/ 3 * 09/03/2013 - 09/03/2016 2,973 6,665,919 Account 5 * 09/03/2011 - 09/03/2016 5,127 17,156,707																																																																
<b>History</b>		What is the employer's statewide history of previous WISHA violations for the past three years?  In the last 3 years they have been inspected 29 times with 2 repeat serious 19 serious and 9 general violation.																																																														
<b>Photos</b>	Yes	<b>Photos</b>	1																																																													
<b>Photo ID</b>	<b>Photo Type</b>	<b>Description</b>																																																														
Trolley motor control exposed energised parts 750 voltsIMG_0050.jpg	Public	This photo was taken to show the minimum approach distance MAD to exposed live parts. The employees were not aware that they were required to maintain the now 13 inches MAD unless they or the part was covered with approved devices.	<a href="#">View</a>	<a href="#">Print Form</a>																																																												
<table border="1"> <tr> <td><b>Inspection Number / Program</b></td> <td><b>UBI / BusLoc</b></td> <td colspan="3"><b>CSHO ID / CSHO Region</b></td> </tr> <tr> <td>317941132 / Safety</td> <td>578037394 / 553388</td> <td colspan="3">M7618 / GEORGE(DICK) MAXWELL / 1055380</td> </tr> <tr> <td><b>Triggering Activity</b></td> <td><b>Account Number</b></td> <td colspan="3"><b>Assignment Type / Site Region</b></td> </tr> <tr> <td>209476493</td> <td>70010100</td> <td colspan="3">Complaint / 1055320</td> </tr> <tr> <td><b>Violation #</b></td> <td><b>Item #</b></td> <td><b>Group</b></td> <td colspan="2"><b>Standard Violated</b></td> </tr> <tr> <td>1</td> <td>2</td> <td></td> <td colspan="2">296-803-70005</td> </tr> <tr> <td><b>Type</b></td> <td><b>Number of Instances</b></td> <td><b>Number of Workers Exposed</b></td> <td><b>Related Event Code</b></td> <td><b>Previous Inspection # (for repeat or FTA)</b></td> </tr> <tr> <td>S</td> <td>1</td> <td>10</td> <td>Complaint</td> <td></td> </tr> <tr> <td><b>Abatement # of Days/Date</b></td> <td><b>Immediate Restraint</b></td> <td><b>Egregious</b></td> <td><b>Substance</b></td> <td><b>Abatement Documents Required</b></td> </tr> <tr> <td>11/1/2016</td> <td>No</td> <td>No</td> <td></td> <td>No</td> </tr> <tr> <td><b>Date Corrected</b></td> <td><b>Complied During Inspection</b></td> <td><b>Date Verified</b></td> <td><b>How Verified</b></td> <td><b>Date/Time Violation Identified</b></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					<b>Inspection Number / Program</b>	<b>UBI / BusLoc</b>	<b>CSHO ID / CSHO Region</b>			317941132 / Safety	578037394 / 553388	M7618 / GEORGE(DICK) MAXWELL / 1055380			<b>Triggering Activity</b>	<b>Account Number</b>	<b>Assignment Type / Site Region</b>			209476493	70010100	Complaint / 1055320			<b>Violation #</b>	<b>Item #</b>	<b>Group</b>	<b>Standard Violated</b>		1	2		296-803-70005		<b>Type</b>	<b>Number of Instances</b>	<b>Number of Workers Exposed</b>	<b>Related Event Code</b>	<b>Previous Inspection # (for repeat or FTA)</b>	S	1	10	Complaint		<b>Abatement # of Days/Date</b>	<b>Immediate Restraint</b>	<b>Egregious</b>	<b>Substance</b>	<b>Abatement Documents Required</b>	11/1/2016	No	No		No	<b>Date Corrected</b>	<b>Complied During Inspection</b>	<b>Date Verified</b>	<b>How Verified</b>	<b>Date/Time Violation Identified</b>					
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	No			5/23/2016 2:20 PM
<b>Statutory Penalty</b>	<b>Asbestos Good Faith</b>	<b>Asbestos # of Days</b>	<b>Severity</b>	<b>Probability</b>
No	No		3	2
<b>Gravity</b>	<b>Gravity Based Penalty</b>	<b>Faith / Adj</b>	<b>Size / Adj</b>	<b>History Adj</b>
6	6000.00	Good -1,200.00	251+ 0.00	Below 600.00
<b>Quick Fix / Adj</b>	<b>Adjusted Subtotal</b>	<b>Calculated Base</b>	<b>Adjusted Base</b>	<b>Base Applied</b>
No 0.00	-600.00	5,400.00	5,400.00	5,400.00
<b>Base Applied Override Justification</b>				
N/A				
<b>Willful Factor Number</b>	<b>Repeat Factor Number</b>	<b>FTA Factor Number of Days</b>	<b>Calculated Penalty</b>	<b>Assessed Penalty</b>
N/A	N/A	N/A	5,400.00	5,400.00
<b>Assessed Applied Override Justification</b>				
N/A				
<b>AVD</b>	<p>For this instance, the employer did not ensure a periodic review was done with the employees to evaluate any improper energy control procedure.</p> <p>The mechanics and electronic technicians at King County Metro Atlantic Base, 1555 Airport Way S., Seattle, WA 98134, are subject to possible electrocution hazards from management not reviewing and correcting improper LOTO procedures. Contact with 750 volts of high voltage direct current may cause death or serious physical injury.</p>			
<b>Message</b>	The following additional correction documentation is required for this violation: Documentation showing that the procedure to perform periodic reviews according to 803-70005 is being developed.			
<b>How Complied</b>				
<b>Violation Summary Text</b>				
<b>Documentation</b>	<p>What was the hazard and location? There has not been an evaluation of the lock out procedure to detect the deficiencies. King County Metro Atlantic Base 1555 Airport Way S Seattle.</p> <p>What were the applicable measurements or exposure data? (Make, Model, Serial Number, Height, Etc.) The Pringle box, a high voltage disconnect with the capability of LOTO, is the disconnect for the overhead trolley lines located inside the Atlantic base shop. These positive and negative conductors are 750 volts direct current. There are other push button devices for de-energizing the 750 volt lines in some of the truck bays, but they are designed to de-energize two separate bays with either switch, improper LOTO could lead to accidental energization of a parallel feed..</p> <p>How are employees exposed to the hazard? For the instance of the high voltage hazards the employees have not had the necessary training to gain proficiency in recognizing the associated electrical</p>			

	<p>hazards with an improper LOTO. The practice was to lock out then put the key on top of the box so other workers wouldn't be inconvenienced.</p> <p>How long has the hazard existed? This practice has existed until this inspection when the procedure changed to follow more traditional methods of LOTO.</p> <p>Employee Exposure Information: (Name and Job Title) Tim Nguyen Mechanic approximately 5 months at KCM one month at Atlantic Base no overhead trolley experience. Paul Stoppleworth mechanic twelve month employee on graveyard shift. Chris Zwiefelhofer lead mechanic supervisor role 28 years in the trade. Ray Martinsen mechanic, Ken Peterson lead mechanic 19.5 years in the trade, Bill Ritter mechanic, Arvin Vulliet mechanic, Kermit Gipson electronic tech., Bill Marion mechanic 36 years as mechanic now an inspector, Tom O'Bannon lead electronic tech. 27 year employee.</p> <p>The complaint is based on high voltage hazards at the Atlantic Base. There was a specific high voltage contact that was received by an employee which helped initiate the complaint. The above mentioned employees are the ones that were interviewed for this instance.</p> <p>What did employee(s) say about this violation/hazard? We Would just put the key on the box so someone else could use the switch if necessary. We have had some electrical hazard awareness training, some LOTO training but nothing formal as in a classroom mostly ojt. We used to have safety meetings but due to the lean project we now do group Huddles.</p> <p>What did management say about this violation/hazard? The Pringle box is now being locked and tagged, and the authorized person keeps the key with his self.</p>
<b>Severity</b>	3-Contact with high voltage direct current may cause death or serious physical injury.
<b>Probability</b>	<p>Frequency of exposure/number of employees exposed: Multiple employees working 3 shifts 24 hours a day seven days a week exposed to high voltage direct current electrical hazards of 750 volts at the Atlantic Base 1555 Airport Way S Seattle.</p> <p>Instances or number of times the hazard is identified in the workplace: Improper LOTO was mentioned as a common occurrence until this inspection when the procedure was changed to follow proper LOTO,.</p> <p>Employee proximity to the hazard: For the electrical hazard associated with the lack of training Hands on.</p> <p>Weather and other working conditions: Inside a shop. But the coaches will come in wet from the weather exposure.</p> <p>Employee skill level and training: Journey level mechanics and electrical technicians.</p> <p>Employee awareness of the hazard: They are aware of hazards associated with the trolleys and the high voltage but the culture was to leave the key handy.</p> <p>Pace/speed/nature of task/work: For the New Flyer 4300 and 4500 series coaches there was a push by management to get them into revenue service.</p>

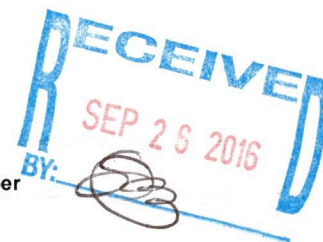
	<p>Use of personal protective equipment: Fall protection, safety glasses, sometimes protective gloves, the arc protective wear is in the warehouse and not accessible on weekends in case someone actually wanted to wear it.</p> <p>Other mitigating or contributing circumstances (Mitigating circumstances may lower the probability; contributing may raise the probability):</p>			
<b>Quick Fix</b>				
<b>Good Faith</b>	<p>Is management's commitment at all levels apparent? There is an APP, an electrical safety vehicle maintenance program, along with other required programs.</p> <p>Are employees clearly involved in the safety and health programs? There is a safety committee but upon examination of the requested meeting notes nothing seems to get resolved.</p> <p>Are the safety and health policies communicated and applied? Not at the time of the incident. But the current Safety and Health Administrator IV Atlantic Base James Wells is changing all that.</p> <p>Is there evidence of the overall safety and health program, including a written accident prevention program (APP), other required written programs, training, etc.? Yes.</p> <p>What is the employer's injury and illness rate?</p> <p>-----</p> <p>578037394 KING COUNTY SI: Y STAT: O TYPE: X</p> <p>-----</p> <p>* Business Information Inactive:          DBA: KING COUNTY Busloc/Aka: * Legal Owner: 0          Mail: 500 4TH AVE SUITE 500 Expr Fctr: Cmpt Expr:          Addr: * SEATTLE, WA 98104 Ownership: Cnt/City BM NAICS: 921110 *          Cont: MERRITT, LAURA Phone: 206 477-3502 SIC: 9111          Num Pls: 184 *          Claims 1 Year * Range 09/03/2015 - 09/03/2016 Cnt 899 Costs 442,529          by UBI/ 3 * 09/03/2013 - 09/03/2016 2,973 6,665,919          Account 5 * 09/03/2011 - 09/03/2016 5,127 17,156,707</p>			
<b>History</b>	<p>What is the employer's statewide history of previous WISHA violations for the past three years?</p> <p>In the last 3 years they have been inspected 29 times with 2 repeat serious 19 serious and 9 general violation.</p>			
<b>Photos</b>	Yes	<b>Photos</b>	2	
<b>Photo ID</b>	<b>Photo Type</b>	<b>Description</b>		
Pringle switch Atlantic BaseIMG_0047.jpg	Public	This photo shows the Pringle disconnect. Prior to the complaint the employees would put the LOTO key on top of the box	<a href="#">View</a>	<a href="#">Print Form</a>
KCM LOTO trolley wire disconnect in bays 16 & 17.JPG	Public	This photo shows the other style disconnects in bays 16 and 17.	<a href="#">View</a>	<a href="#">Print Form</a>

Total Penalty: \$10,800.00
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## Inspection Summary Report

### Inspection Information

<b>Inspection Number / Program</b> 317941132 / Safety	<b>Triggering Activity</b> 209476493	<b>UBI / Bus Loc</b> 578037394 / 553388	<b>Account Number</b> 70010100
<b>Establishment DBA / Legal Name</b> ATLANTIC MAINT BASE / KING COUNTY	<b>Legal Entity</b> State/Local Govt	<b>Assignment Type</b> Complaint	<b>Site Region</b> 1055320
<b>CSHO ID / CSHO Name</b> M7618 / GEORGE(DICK) MAXWELL	<b>CSHO Region</b> 1055380	<b>Target List / Rank</b> None	<b>On List</b> Y
<b>Primary NAICS</b> 926120	<b>Primary NAICS Description</b> REGULATION AND ADMINISTRATION OF TRANSPORTATION PR		
<b>Site NAICS</b> 926120	<b>Site NAICS Description</b> REGULATION AND ADMINISTRATION OF TRANSPORTATION PROGRAMS		
<b>Site Address</b> ATLANTIC MAINT BASE 1555 Airport Way S Seattle, WA 98134	<b>Mailing Address</b> ATLANTIC MAINT BASE 500 4th Ave Suite 500 Seattle, WA 98104 Phone: (206) 477-3362 Fax: (206) 296-0514 Email: laura.merriitt@kingcounty.gov		



### Violation List

<b>Inspection Number / Program</b> 317941132 / Safety	<b>Triggering Activity</b> 209476493	<b>UBI / Bus Loc</b> 578037394 / 553388	<b>Account Number</b> 70010100
<b>Establishment DBA / Legal Name</b> ATLANTIC MAINT BASE / KING COUNTY	<b>Assignment Type / Site Region</b> Complaint / 1055320	<b>CSHO / CSHO Region</b> M7618 GEORGE(DICK) MAXWELL / 1055380	

Violation	Item	Group	Type	Standard	Penalty	Instances	Abatement Days/Date	Date Corrected
1	1		S	296-800-14020	5,400.00	1	30	
1	2		S	296-803-70005	5,400.00	1	30	
Total Penalty: \$10,800.00								

### Inspection Summary

This complaint inspection was opened by Maxwell on 5-23-2016 at 1555 Airport Way South Seattle Atlantic base.

The closing was held on 9-15-2016 at 11911 East Marginal Way South Bldg. A Tukwila.


This complaint was initiated by the Amalgamated Transit Union Local 587 whose concerns are listed in the complaint. The main issue was inadequate training specific to the New Flyer Hy-Brid Trolley, coach series 4300 and 4500. There had been an electrical contact by an employee of 311 volts while he was inspecting the coach. The hot coach detector was not working and failed to warn of the now energized coach. During the investigation interviews the mechanics main concerns were lack of training on electrical, 480 volt heaters miss-wired, trolley poles dropping and the manual was written in German. KCM was cited WAC 296-800-14020 for training. The inspection also revealed a lax LOTO program and KCM was cited for not having an annual review according to WAC 296-803-70005.


Maxwell 9-20-16  
CSHO Signature Date

Jeff Krause 9-21-2016  
Supervisor Signature Date

[Signature] 9-26-16  
Reviewer Signature Date



Division of Occupational Safety and Health MS 44600						<b>Inspection Worksheet (1A)</b> <span style="font-size: 1.5em;">317941132</span>			
Inspection # <b>317941132</b>		CSHO ID(s) <b>M7618</b>		Credentials presented? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Date of Entry <b>5-23-2016</b>		Time of Entry <b>1420</b>	
Business name <b>King County Metro</b>				Consent Statement My name is <b>Dick</b> . I am an Inspector for the State of Washington, Dept of Labor and Industries. I am here to conduct a health and/or workplace safety inspection (Show ID credentials). May I have permission (or consent) to perform the inspection? If yes, proceed. Employer Rep (First and Last name) <b>Bruce Lilquist</b> Denied by (First and Last name)					
Site Address <b>1555 Airport Way S Seattle, WA 98134</b>									
Mailing Address <b>500 4th Ave Suite 500 Seattle WA 98104</b>									
Phone # <b>206 487-7581</b>				Alternate Phone #		If, and only if, the owner or his/her authorized representative does not affirmatively respond to the above requests for consent to inspect, the inspector will then state: "Thank you, the state may seek a warrant for entry upon an inspection of the premises from a court of competent jurisdiction and such a warrant may be issued to permit me to conduct the inspection." Date/Time denied      Re-entry Date/Time Consent/Denial Response <b>Bruce "yes"</b>			
E-mail									
UBI <b>578037394</b> Type <b>X Acct: 704, 101-00</b> EEs on site <b>80</b> EEs Covered <b>10</b> EEs in USA <b>4700 14830</b>									
Name Employer Reps		Title		OC		WA		CC	
<b>Bruce Lilquist</b>		<b>Atlantic Blvd Super.</b>		<b>X</b>					
<b>James Wells</b>		<b>Safety + Health Admin IV</b>		<b>X</b>		<b>X</b>		<b>X</b>	
<b>Darryl Russell</b>		<b>Safety Manager</b>				<b>X</b>			
<b>Bill Marion</b>		<b>Mechanic</b>		<b>X</b>					
Name Employee Reps		Title		OC		WA		CC	
<b>Paul Stoppeworth</b>		<b>Mechanic</b>				<b>X</b>			
<b>Bill R. Her</b>		<b>Mechanic</b>				<b>X</b>			
<b>Roy Martin sen</b>		<b>Mechanic</b>				<b>✓</b>			
<b>Keemitt Gipsom</b>		<b>E.T</b>				<b>✓</b>			
Employees Interviewed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No How many? <b>2</b>		Union <b>Amalgamated Transit Union</b> Address				Local # <b>587</b> Phone			
Opening Conference - Date: <b>5 / 23 / 2016</b> Time: <b>1420</b>				Closing Conference - Date: <b>9 / 15 / 16</b> Time: <b>1530 hrs.</b>					
<input checked="" type="checkbox"/> Explain WISH Act and DOSH				<input checked="" type="checkbox"/> Discuss hazards observed					
<input checked="" type="checkbox"/> Availability of standards, posters, logs				<input checked="" type="checkbox"/> Proposed violations and their severity					
<input checked="" type="checkbox"/> Confidentiality of trade secrets				<input checked="" type="checkbox"/> Penalties may be assessed					
<input checked="" type="checkbox"/> Explain walk around procedure				<input checked="" type="checkbox"/> Subject to further review					
<input checked="" type="checkbox"/> Request written programs				<input checked="" type="checkbox"/> Set reasonable abatement periods					
<input checked="" type="checkbox"/> Interview employees in private				<input checked="" type="checkbox"/> Explain extension of abatement					
<input checked="" type="checkbox"/> Discrimination against EEs				<input checked="" type="checkbox"/> Advise results will be issued					
<input checked="" type="checkbox"/> Walk around pay				<input checked="" type="checkbox"/> Must be posted					
<input checked="" type="checkbox"/> Closing conference will be held				<input checked="" type="checkbox"/> Explain proof of corrections requirements					
<input checked="" type="checkbox"/> Inquire of safety requirements for inspector				<input checked="" type="checkbox"/> Results of failure to correct					
<input checked="" type="checkbox"/> Do you have minors (17 or under) working for you?				<input checked="" type="checkbox"/> Availability of consultation and risk management services after abatement period					
<input checked="" type="checkbox"/> Explain violations/penalties may result				<input checked="" type="checkbox"/> Variance (if applicable)					
<input checked="" type="checkbox"/> 300 Log copy collected				<input checked="" type="checkbox"/> Appeals rights (15 working days after receipt)					
				<input checked="" type="checkbox"/> Stay of abatement					
Shape sheet included <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Stute worksheet included <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Closing conference highlights included <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Complaint/referral provided <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

 <p>Washington State Department of <b>Labor &amp; Industries</b> <i>Division of Occupational Safety and Health</i></p>	<p><b>Division of Occupational Safety and Health Complaint</b></p>
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<b>Complaint Number:</b>	209476493
<b>Region:</b>	1055380
<b>UBI/Account Number:</b>	578037394 / 70010100
<b>Employer Legal Name:</b>	KING COUNTY
<b>Employer DBA Name:</b>	ATLANTIC MAINT BASE
<b>Site Address:</b>	1555 Airport Way S Seattle, WA 98134
<b>Mailing Address:</b>	500 4th Ave Suite 500 Seattle, WA 98104
<b>Management Official:</b>	John Alley
<b>Telephone Number</b>	
<b>Type of Business:</b>	Transit coach maint.

## Notice of Alleged Safety or Health Hazards

Hazard Severity	CSHO Assigned	Due Date	Number of Days
Serious	M7618	6/7/2016	10

### Hazard and Location Description

Currently there are over 650 maintenance personal who are around or inside a bus performing various maintenance tasks. As their business Agent I continually hear their concerns of voltage when in conversations with the members I represent. Concerns of not adequate training and the handling of 700 volts.  
 Safety training and repair procedures with regards to 700 volt.  
 Bus fleet series in question but not limited to #7000, #8000' 4300's.  
 Recent reports of mechanics being shocked while maintaining and repairing said coaches.  
 Need to validate procedures and practices when doing repair and maintenance of said coaches'  
 Review repair processes at all 6 operating repair facilities to verify process set by management is safe

Complaint or Referral #

Department of Labor and Industries  
Division of Occupational Safety and Health  
(DOSH)



## ALLEGED SAFETY OR HEALTH HAZARDS

1. Date 05/23/2016			
2. Employer Name King County Transit			
3. Site Location – Street 1555 Airport way so	City Seattle	State WA	ZIP+4 98118
4. Mailing Address (if different) Street	City	State	ZIP+4
5. Name of Management/Supervisory Official John Alley		6. Business Telephone Number 206-477-5877	

7. Description of Business  
Transit Bus Maintenance

8. Hazard Description. Describe the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard:

Currently there are over 650 maintenance personnel who are around or inside a bus performing various maintenance tasks. As their Business Agent I continually hear their concerns of voltage when in conversations with the members I represent.

Concerns of not adequate training and the handling of 700 volts.

Safety training and repair procedures with regards to 700 volt.

Bus fleet series in question but not limited to #7000, #8000, 4300's.

Recent reports of mechanics being shocked while maintaining and repairing said coaches.

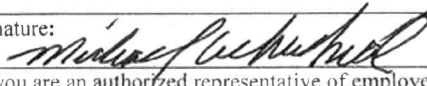
Need to validate procedures and practices when doing repair and maintenance of said coaches.


Review repair processes at all 6 operating repair facilities to verify process set by management is safe.

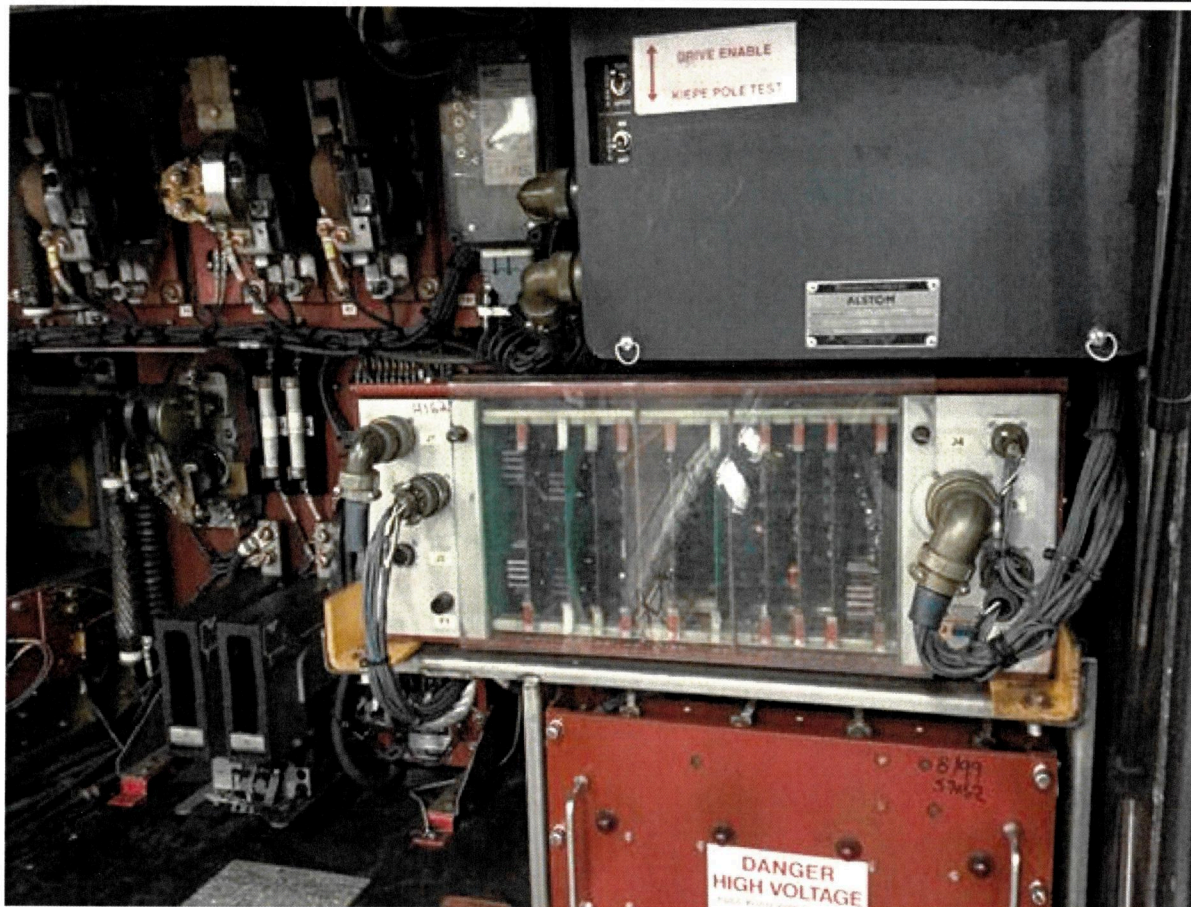
9. Hazard Location. Specify the particular building/work site and the work shifts where the alleged hazard is occurring.  
Atlantic Base, South Base, Ryerson Base, Central Base, North Base and East Base, all are maintenance bases where repairs to buses are made.

**CONFIDENTIALITY NOTE:** DOSH will only maintain confidentiality regarding the source of a complaint for an employee or employee representative that files a DOSH work place safety and health complaint. The employee or employee representative must specifically request confidentiality. If the confidentiality section of the complaint form has not been completed, or there are questions regarding the complainant's request for confidentiality, DOSH will contact the complainant prior to initiating a complaint inspection. SEE DOSH Regional Directive (WRD) 1.95 "Safety & Health Complaint Handling and Classification" for more guidance.



10. Who else have you informed about this unsafe condition/practice? (Mark all that apply)			
<input checked="" type="checkbox"/> Employer		<input type="checkbox"/> Other Government Agency (specify) _____	
<input checked="" type="checkbox"/> Other Individual		Please indicate the name of the person who was informed, job title and the date he/she was notified	
JOHN ALLEY MANAGER of BUS MAINTENANCE			
11. Are you a current employee or employee representative of this employer? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
If you are a current employee or employee representative, please indicate your desire:			
<input type="checkbox"/> Do not reveal my name to the Employer. <input checked="" type="checkbox"/> My name may be revealed to the Employer			
<small>CONFIDENTIALITY NOTE: DOSH will only maintain confidentiality regarding the source of a complaint for an employee or employee representative that files a DOSH work place safety and health complaint. The employee or employee representative must specifically request confidentiality if the confidentiality section of the complaint form has not been completed, or there are questions regarding the complainant's request for confidentiality, DOSH will contact the complainant prior to initiating a complaint inspection. SEE DOSH Regional Directive (WRD) 195 "Safety &amp; Health Complaint Handling and Classification" for more guidance.</small>			
12. The Undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard of the establishment named on this form: (Mark "X" in one box)			
<input checked="" type="checkbox"/> Employee		<input checked="" type="checkbox"/> Representative of Employees <input type="checkbox"/> Other (specify) _____	
13. Name (type or print) Michael Whitehead			14. Telephone Number 206-448-8588
15. Address – Street 2815 Second Avenue, Suite 230		City Seattle	State ZIP+4) WA 98121
16. Signature: 			17. Date 05/23/2016
18. If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title.			
Organization/Union Name: ATU 587		Your Title: Vice President, Business Agent, Maintenance	
<b>OFFICIAL USE ONLY</b>			
19. Reporting ID		20. Previous Activity? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, Enter Type: _____ Number: _____	
21. Optional Complaint Number			
Identification	22. Establishment Name Change? <input type="checkbox"/>	23. Site Address Change? <input type="checkbox"/>	24. Account ID
Receipt Information	27. Received by:	28. Date Received	29. Time AM PM 30. Supervisor(s) assigned a. b.
Industry & Ownership	32. Primary SIC/NAICS	33. Ownership (Mark "X" in one box) a. <input type="checkbox"/> Private Sector b. <input checked="" type="checkbox"/> Local Government <input type="checkbox"/> State Government d. <input type="checkbox"/> Federal Agency Code	
Evaluation	34. Evaluated by: (CSHO ID)		35. Subject and Severity Discrimination <input type="checkbox"/> Imminent Danger <input type="checkbox"/> Serious <input type="checkbox"/> General <input type="checkbox"/> Safety <input type="checkbox"/> Health <input type="checkbox"/>
	36. Is this a valid complaint? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	37. Is this a valid referral? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Action Taken	38		
<input type="checkbox"/>	<input type="checkbox"/> Transferred to another jurisdiction: <input type="checkbox"/> Other L&I Division/Department _____ Date _____ <input type="checkbox"/> State/Local Government _____ Date _____ <input type="checkbox"/> Federal OSHA _____ Date _____ <input type="checkbox"/> Other Federal Agency _____ Date _____ <input type="checkbox"/> Other _____ Date _____ <input type="checkbox"/> Phone and Fax <input checked="" type="checkbox"/> Person Letter Sent To _____ Date sent _____ Date response due _____		
	<input type="checkbox"/> Inspection Planned <input checked="" type="checkbox"/> Assigned to CSHO: _____ Number of days to inspect: _____ <input type="checkbox"/> No Action Taken Reason no action was taken _____		
Comments			

Division of Occupational Safety & Health MS: 44632				PHOTO IDENTIFICATION Single	
Inspection Number 317941132	Photo Date/Time 5/23/2016 2:20 PM	Photographer ID M7618 - GEORGE(DICK) MAXWELL		UBI 578037394	
Name of Employer ATLANTIC MAINT BASE/KING COUNTY					



Disc #	Photo ID # Trolley motor control exposed energised parts 750 voltsIMG_0050.jpg	Citation/Item # 1-1
Location of Hazard 1555 Airport Way S Seattle WA 98134		
Description of Photo This photo was taken to show the minimum approach distance MAD to exposed live parts. The employees were not aware that they were required to maintain the now 13 inches MAD unless they or the part was covered with approved devices.		
F418-024-000 Photo-ID Single 9-06		

6



Department of Labor and Industries



# HECK Field Notes

Employer: King County Metro

Inspection Number: 317941132

Date: 5-23-2016

Time: 1420 hours

## 1. Describe the hazard in detail (photograph hazard if possible/applicable). Violation 1-1

Training addressing the specific electrical, and mechanical hazards associated with the New Flyer Hy-brid Trolley such as the proper voltage testing procedure, use and care of electrically rated tools, to include voltage tester, live line tools, arc protective wear, rubber insulating gloves. The minimum approach distance for the voltage. King County Metro Atlantic Base 1555 Airport Way S Seattle.

## 2. Describe how employee(s) are exposed or potentially exposed to the hazard. (Proximity to hazard, describe observed/unobserved/potential exposure.)

For the instance of the high voltage hazards the employees have not had the necessary training to gain proficiency in recognizing the associated electrical hazards with the New Flyer 4300 and 4500 series coach. And the familiarity with abating those hazards. This could lead to the employees, violating the MAD minimum approach distance of 13 inches, not being trained to use appropriate arc protective clothing when necessary, and working on energized equipment when it should have been Locked and tagged out (LOTO). In addition there has not been training in how to handle the issue of the trolley poles dropping which is another safety concern brought up in the interviews.

## 3. List equipment/machinery/tools, measurements, monitoring data (noise/lab results) where applicable.

New Flyer coach 4300 and 4500 series battery pack is 600 volts direct current, the overhead trolley is 750 volts direct current. There is also an inverter changing the direct current to three phase 480 volt alternating current which operates the air compressor and cabin heaters, three phase 435 volt alternating current to the propulsion motor. The measured voltage for the electrical contact was 311 volts. The electrical contact was from coach number 4369

## 4. List employee(s) exposed (names, job titles, addresses, email addresses, and telephone numbers):

Tim Nguyen Mechanic approximately 5 months at KCM one month at Atlantic Base no overhead trolley experience. Paul Stoppleworth mechanic twelve month employee on graveyard shift. Chris Zwiefelhofer lead mechanic supervisor role 28 years in the trade. Ray Martinsen mechanic, Ken Peterson lead mechanic 19.5 years in the trade, Bill Ritter mechanic, Arvin Vulliet mechanic, Kermit Gipson electronic tech., Bill Marion mechanic 36 years as mechanic now an inspector, Tom O'Bannon lead electronic tech. 27 year employee.

## 5. What did employee(s)/witnesses say about this violation/hazard? (Employee and/or witness statements.)

Statements from confidential employee interviews.

We are usually trained months in advance of a new coach coming on line but for this coach 43 and 4500 series management wanted it out and running. We had no training for the New Flyer 43 and 4500 series coach. We had no idea there was a minimum approach distance to energized parts. We initiated a fix for the trolley poles and a way to detect if the hot coach detector was operable but due to possible warranty issues with New Flyer and Vissloh Kiepe traction power supplier. We have had some electrical hazard awareness training, some LOTO training but nothing formal as in a classroom mostly OJT. We used to have safety meetings but due to the lean project we now do group Huddles. What manual we had was in German. BAE taught us about gloves, arc protection, face shields but we don't use these, a month and a half ago I was observing our vendor and asked the lead if I should be using this stuff. He answered probably should.

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6. How long has the hazard existed? (Duration/frequency.)

This has existed since the coaches were put into service approximately one year from the fall of 2015 to present 8-2016.

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7. What did management say about this violation/hazard? (Employer statement, written documents, and/or due diligence.)

What did management say about this violation/hazard?

All the coaches have been tested and are safe to make revenue.

The 480 volt heater issue has been resolved.

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8. Mitigating and/or contributing factors/miscellaneous: (Statue, employer claims there is no employee relationship, dual employer, controlling employer, etc.)

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9. Describe the abatement status/method. 30 days

Provide documentation that a training program is being developed that will include awareness of high voltage specific hazards. For example some suggestions but not limited to proper PPE, use and care of live line tools, MAD to name a few.

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*Continue on back if needed*



**King County**

Department of Transportation  
Metro Transit Division  
Transit Safety Unit

317941132-

2016AM009

## PRELIMINARY REPORT

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DATE of REPORT:	May 26, 2016
REPORT TYPE:	Electrical Shock Injury
LnI	Complaint #209476493
RESPONDING SAFETY OFFICER:	James Wells

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### ELECTRICAL SHOCK EVENT:

Shock injury: May 9, 2016 Atlantic Base  
Employee: Mechanic, Mr. Bill Marion ID 40829  
Time: 12:30 PM

Mr. Bill Marion ID 40829 was inspecting coach 4369 from underneath in the pit and received a shock. He reported the shock to Lead Mechanic Ken Peterson ID 45291 and then left work and did not go to the ER as instructed in his Electrical Safety Training March 2015. Mr. Marion drove himself to Group Health but they were slow and in frustration he left – it is unclear what information they received from him. He did show up briefly at the start of work May 10 but did not remain on site. He filled out an incident report, but did not request the Self-Insurer Accident Report (SIF2) before leaving to go on vacation.

Lead Mechanic Ken Peterson directed Electronic Technician Lead Tom O'Bannon ID 46732 to do an investigation concerning the hot coach, reported by Mechanic, Marion had received a shock from coach 4369 when he grounded himself by leaning against the hand railing down inside the pit and touching the pet cock valve to drain moisture from the coach, to see if there was voltage to the coach. O'Bannon reported that the X60 connector in the Roof Top Compartment (RTC) on the roof was disconnected so that the hot coach detector did not function. This condition also allowed voltage on the coach skin and chassis to climb to 270-280 V (volts as measured by O'Bannon). Instead, Marion's hand touching the coach body provided the ground.

The Intermediate Potential Panels inside the passenger compartment were opened by O'Bannon and he determine that the voltages were reverse from expected and it appears (This was never proven to be the case, it was disconnected on per VK during their investigation) that the wires hooking up the hot coach detector were reversed: The voltage was positive on the negative pole side do to the missing connection which gives the reference for the check perform. This means the whole system had no ground to measure against.



## PRELIMINARY REPORT

The X60 connector inside the RTC container on top of the coach is not something that a VM employee works with/ touches. (See photos at end) This work is currently being performed by the Vossloh Kiepe factory representative (Raimund Wagener) working on site and the Electronic Technician employees have been observing this work for training purposes. This person, according to Tom, was asked to investigate this shock situation and had no knowledge or information or ideas on how/why the connector was loose or undone and how the hot body detector did not work.

Mr. Wagener checked another coach and with the connector removed the body 'Floats' up. According to Mr. Wagener this is like a 'Static' charge, similar to rubbing stocking feet on a carpet and touching a door knob. [It was] high voltage with very low current, it is unclear if Mr. Wagener did an actual measure of the voltage to the skin of coach 4369. Mr. Wagener also checked the fault log and found no faults indicating this problem. However, according to Kim Martin from Fleet Engineering the "HOT COACH" was induced from the high voltage overhead. It should be noted that injury can occur at very low current. Heart fibrillation will occur at 100 – 200mA.

Moreover, Mr. Martin states, "We need a measurement here. If Mr. Wagener did not measure than it is speculation and should be omitted. Mr. Martin states, [I] can make a case for static electricity being deadly, as in the case of lightning. The potential and the resistance determine the amperage (Ohm's Law). Mr. Wagener is confused, I think, by the feed being a small current but the actual discharge current after the voltage has "floated up" can be much higher (as in the case with lightning.)"

### LEAD MECHANIC KEN PETERSON STATEMENT:

While Mr. Marion was inspecting Coach #4369, he was leaning against the rail in the pit, when he grabbed the pet cock for the "Wet Tank" (to drain moisture out); he received voltage in the form of a small shock. Lead Mechanic Ken Peterson immediately directed Electronic Technician Tom O'Bannon to check to see if it was in fact a Hot Coach. O'Bannon found roughly 270-280 volts to the body/skin of the coach. This all happened while the poles were down in the racked position. Everyone at Atlantic base is aware of this situation, and all standard precautions are being followed, at this time.

### ELECTRONIC TECHNICIAN TOM O'BANNON STATEMENT:

WO# 2267513 - 56-C5-485

300V present on coach body with NO HOT COACH ALARM. IPs has -285V to -300V to chassis. Reseated X60 on the CPM A1, tested insulation and body voltage, all OK.

Found loose connector X60 on rooftop insulation check board CPMA1 (in RAC). X60 is the connection from the CPM 202 to the chassis through the A1 board. Without proper reference

## PRELIMINARY REPORT

to chassis the CPM 202 will not detect a hot coach, and stray voltages will cause damage to the CPM 202. [It] looks like we fried 2 CPMs (hot coach detectors) during troubleshooting.

### MECHANIC BILL MARION INCIDENT REPORT:

While [doing an] inspection of coach 4369, I got zapped with 300 volts. [Because there was voltage that created the] Hot Coach [it was placed] on hold. I reported to Lead Mechanic Ken Peterson and Electronic Technician Tom O'Bannon to check coach. I went to Group Health for blood pressure check.

### UNSUBSTANTIATED:

The poles were either on the overhead wire or the shock came from the high voltage capacitors. Tom O'Bannon checked with both the poles up and down, finding voltage only when the poles were on the overhead wire. The poles were up at the time the shock occurred.

### UNCLEAR:

How did the hot coach detector work if the voltages were reversed? It didn't and could not work with the X60 switch disconnected. It did not warn that it was not working.

### FINDINGS:

1. Mr. Marion was allowed to transport himself to Group Health. Mr. Peterson did not provide transportation to an emergency room for a check-up after the electrical shock injury was reported. The mechanics who provide service on the 4300 and 4500 and BAE ESS system type coaches do not feel they are properly train. The Lockout/Tag out boxes shutting the power off is shared by the other bays in the shop, and creates a hazard because of bays not being able to independently lockout and tagout.
2. The Electrical Safety Program policy and procedures were not followed by Lead Mechanic Ken Peterson and Mechanic Bill Marion.
3. Inadequate and/or no training for the new fleet of coaches (4300).
4. There was no Work Order record of anyone (to include VK) performing any work on this coach. This includes Central Base.
5. Vissloh Kiepe/New Flyer (VK/NF) does not provide documentation of work performed.

## PRELIMINARY REPORT

6. There was no record of who disconnected the X60 snap connector. The service manual for the new fleet is not available yet fully in English.
7. There are three redundant systems in place at the time. There is a fourth being test.
8. There was no immediate report to management by the Mechanic or Lead.
9. The hot coach did not provide any warning do to disconnected power supply at X60 in Roof Top Compartment (RTC).
10. The coach went into revenue service that morning before the incident.

### RECOMMENDATIONS:

1. Ensure Atlantic Vehicle Maintenance know, understand, and sign the signature page and follow the Electrical Safety Program policy and procedures.
2. Ensure the poles' are dropped from the overhead tracks when performing any service on 4300 series and 4500 series coaches making this a part of the new procedure.
3. Ensure formal training and recurring training for all mechanics who work on the new fleet of coaches (4300 - 4500) and including all BAE coaches equipped with an ESS system.
4. Ensure increased communication between VK/NF, Fleet Engineering, CSC and all mechanics who do service work on the 4300 series and 4500 series coaches and BAE coaches with an ESS systems.
5. Ensure Vissloh Kiepe/New Flyer (VK/NF) provide service records of all work Performed through the M5 Work Order Process.
6. Ensure whenever VK/NF perform any service to a coach or disconnect a switch on either a 4300 or 4500 to provide notification in the form of a placard placed on the dash or doors of coach as part of the lockout/tagout procedure.
7. Ensure the entire service manual for the new fleet (4300/4500) is in English.
8. Ensure a system of redundancies is created to back up the fail safety system crashes.
9. Ensure management takes ownership and give them a chance to demonstrate their willingness to correct the problem.