



CAEA SUB-COMMITTEE CANEW 2010 REPORT

**Canadian Airports Electrical Association
Association Électrique des Aéroports Canadiens**

OUR GOAL

TRY TO
SAVE
THE
POOR
SOUL



AND
TO
PREVENT
THIS !





SUB-COMMITTEE MEMBERS:

- Murray Ames –Chairperson --- Campbell River Airport
- Ray Bjornson –CAEA Director --- Transport Canada
- Bob Chernish – CAEA Director --- DND
- Pat Ayiku --- Airports Division, Northwest Territories
- Bob Nalleweg --- Victoria International Airport
- Bruno Franceschi --- PAPI Aviation Products
- Cristian Faraon --- Montreal – Trudeau International Airport
- Don Gordon --- Liberty Airport Systems
- Harman Dhillon --- Amerace Div. of TNB
- Terry Simpson --- Comox Airport 19 Wing Division



HISTORY

- In the “Old Days “, Transport Canada owned and operated most of the Airports in Canada. These airports had electricians that did the electrical work at the airport and TC had a training facility (TCTI) at Cornwall, Ontario where these electricians went to obtain training and to retrain on Airport electrical systems. It covered both safety and operations of the specialized and unique Airport Lighting equipment.
- THEN THE WORLD CHANGED!



HISTORY

- In 1994 the National Airports Policy was announced. As part of the policy, TC decided to divest ownership of all but the 26 largest airports in Canada.
- Most airports were transferred to cities or local municipalities – as an example, the City of Campbell River purchased the Campbell River Airport in 1995 for \$1.00.
- The 26 “Major” Airports were leased to Airport Authorities and are required to pay rent to Transport Canada.

HISTORY

- As the airports transferred to local control, TC eliminated the financial subsidies for airport operations that assisted them, in part to have trained personnel to maintain the airport facilities.
- The TCTI training center became the NavCanada Training Institute and standardized airport electrician training was eliminated.
- Many of the Airports became the responsibility of people with limited airport knowledge or experience and in many cases “NO” knowledge of Airport electrical systems.

HISTORY

- The new owners of the airports needed to try to make the airports profitable, or as a minimum have them break even.
- As a result, there was generally a reduction in staff at the smaller airports, especially electricians (highest paid!).
- Some airports have hired electrical contractors with limited or no airport experience or staff with “NO” electrical training working on the airport electrical equipment.

HISTORY

- The larger airports have been able to maintain trained and qualified staff and many have the ability to train new personnel in house.
- Another factor is the loss of the TC technical support staff. As the airports transferred, the need for regional support diminished. It was often these people who helped the community airports maintain standards, contacts and information flow between sites and assisted new electricians with training on airport equipment.



HISTORY

- For many years now, a major concern raised at CANEW, has been the dangerous situation of “Un-trained” personnel working on airport electrical systems, especially the series circuit airfield lighting.
- At the CANEW workshop last year in Winnipeg, both the delegates and members of CAEA decided to strike a CAEA sub-committee to try to address some of the outstanding issues from past workshops.



THE WORK BEGINS

- The sub-committee started rolling on November 10, 2009 with an email from Ray Bjornson confirming members and proposed topics.
- The first item on the agenda for the sub-committee was to determine “What” we were going to deal with first.
- All 10 members agreed that the most important issue was “The safety of personnel working on airport electrical systems”, and that we needed to try to establish the qualifications and training required for airport electrical workers.

THE WORK BEGINS

- If we could establish those, we would then be looking for the support of the delegates of CANEW 2010 and the members of CAEA.
- We would also be looking at options for who or what agency or agencies we could work with to enact and enforce our recommendations.
- This was what we were shooting for in the early stages.
- The sub-committee members have worked mostly through emails, along with the occasional use of that old piece of technology called the telephone, to decide on their recommendations which we present today.

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
Item #1 – First item to be dealt with by Sub-Committee is "Airport Electrician" qualifications and training.	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #1 passed - January 6, 2010



2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
<p>Item #2 – Basic qualifications for "Airport Electrician"</p> <p>“Any person who works on “series-type, constant current circuit supplied, airport visual aid systems and equipment” on an Airport in Canada “is required” to be a “Journeyman electrician with Red Seal if required”, an “indentured apprentice”, or a “Supplier service representative”.</p>	<p>Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian</p>		

Item #2 passed - January 21, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
<p>Item #3 – "All other electrical work (electrical equipment not supplied by series circuit regulators) on Airports is to be carried out by qualified, licensed electricians, apprentices as per the conditions of Provincial or Territorial Acts respecting manpower vocational training and qualification, or supplier certified service technicians."</p>	<p>Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian</p>		

Item #3 passed - January 29, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- At this point we had unanimous agreement from all members of the sub-committee that all electrical work done on airports in Canada is to be done by qualified electricians , apprentices, or supplier certified service technicians and “no work on electrical equipment” can be done by any other personnel.
- There was discussion over how or if some airports would be able to meet requirements, but a decision was made that our recommendations would be made solely on safety and airport operations, not issues of compliance.

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Our next step was to start on the “Required” and “Recommended” items for the Airport Electrician. We started with an item, decided whether it was required or recommended, then built the basis for it. We were dealing with electricians doing series circuit work for the first round.
- Many emails went back and forth as we discussed the different aspects and issues related to each item put forward for recommendation. Wording would get adjusted, thanks often to Bob Chernish for his political correctness.

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Item #4 –
“Additional "Required" training or certifications for Airport Electrician under Item #2 - series circuit work”.
- These items are in addition to the Journeyman electrician qualifications.
- Under Item # 4 we have the following recommendations:

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #1 – “Electrical Safety training on Airport Series Circuit systems”. Training at an Airport with qualified electrical staff.	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #4 - 1 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #2 – Airfield lighting operation and maintenance course.	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #4 - 2 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #3 – Airfield Lighting Regulator course from Supplier	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #4 - 3 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #4 – Arc flash safety training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #4 - 4 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Item #5 –
Additional "Recommended" training or certifications for Airport Electrician under Item #2 - series circuit work.
- These items are in addition to the Journeyman electrician qualifications.
- Under Item # 5 we have the following recommendations:

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #1 – High voltage safety training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #5 - 1 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #2 – PLC operations and maintenance	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #5 - 2 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #3 – IPU operations and training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #5 - 3 passed – February 19, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Item #6 –
"Additional "Required" training or certifications for Airport Electrician under Item #3 - other electrical work.
- These items are in addition to the Journeyman electrician qualifications.
- Under Item # 6 we have the following recommendations:

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #1 – High voltage safety training including inspection, certification, safety of high voltage tools, dielectric gloves, and equipment	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #6 - 1 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #2 – Arc flash safety training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #6 - 2 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
"Required" #3 – Information session on Series Circuit Equipment - "What Not To Touch"	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #6 - 3 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Required” #4 – Lock out / Tag out procedures	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #6 - 4 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Item #7 –
“Additional "Recommended" training or certifications for Airport Electrician under Item #3 - other electrical work.”
- These items are in addition to the Journeyman electrician qualifications.
- Under Item # 7 we have the following recommendations:

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #1 – IPU operations and training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #7 - 1 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #2 – Fire Alarm Systems operations and training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #7 - 2 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #3 – PLC operations and maintenance	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #7 - 3 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #4 – Confined Space training	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #7 - 4 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

ITEM TO BE DECIDED	AGREE	DISAGREE	NO RESPONSE
“Recommended” #5 – Fall Arrest training (may be required depending on equipment - i.e. aiming SSALR lights, obstruction lights, beacons, etc.)	Murray, Bruno, Terry, Ray, Bob N, Bob C, Don, Pat, Harman, Cristian		

Item #7 - 5 passed – March 18, 2010

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- At this time, the Sub-committee was in agreement that we had established the proper qualifications and training required for the safety of the individuals doing electrical work on airports in Canada and that these individuals should be capable of installing and maintaining the airfield lighting to standards that would provide safe operations to aircraft and passengers.

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- One of the basis we used to support our requirements for “Qualified, licensed Electricians and Apprentices” was “as per the conditions of Provincial or Territorial Acts”.
- Provinces such as Alberta, Ontario, British Columbia (some exemptions), classify all electrical work as a “Restricted” trade which only the above can work on.
- This would apply to all non-TC airports and is maintained by all the larger airports we checked with as part of their electrical operations.

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Another area that we looked at, as a basis for our recommendations, was the safe operation of the airport's electrical systems for the aircraft and passengers.
- We developed a list of issues for each component of the Airfield Lighting that we felt could be adversely affected by people who were not properly trained working on the equipment.
- Following are some of the items we compiled:

Airfield Lighting Maintenance Requirements That Could Affect Operations

Elevated Runway and Taxiway Edge Lights:

- Height
- Alignment
- Lens and/or filter condition
- Lamp output
- Fixture replacement – some fixtures are used for Medium Intensity and High Intensity and require different internal parts
- Proper lamps as per certifications
- Threshold fixture alignment, lamp size, and filters
- Maximum outage limits

Airfield Lighting Maintenance Requirements That Could Affect Operations

Inset Lights:

- Inspections including light output checks
- Fixture and lamp switching especially on taxiways
- Bolt torques and bolt removal
- Specialized equipment required (trucks or trailers)
- Maximum outage limits – critical Cat 2 & 3 operations
- Rebuilding and pressure testing fixtures
- Lens cleaning and inspections
- Very complicated circuitry affecting worker safety

Airfield Lighting Maintenance Requirements That Could Affect Operations

PAPI:

- Inspection – Checking output
- Alignment – proper equipment and procedures
- Cleaning
- Proper lamps as per certifications
- Lens and/or filter condition
- Lamp output
- Personnel Safety issues with light output
- Frost issues
- Maximum outage limits

Airfield Lighting Maintenance Requirements That Could Affect Operations

ODAL system:

- Inspections
- Timing sequence
- Cleaning – specialized cleaning may be required
- Alignment
- Control unit PM's
- Proper replacement lamps
- Maximum outage limits
- High Voltage Safety training

Airfield Lighting Maintenance Requirements That Could Affect Operations

SSLAR system:

- Cleaning
- Inspection
- Aiming and Alignment – proper equipment and procedures
- Proper lamps
- Tower condition and maintenance
- Maximum outage limits

Airfield Lighting Maintenance Requirements That Could Affect Operations

Approach Strobes:

- Inspections
- Proper lamps
- High Voltage safety – lamp output
- Aiming and alignment
- Cleaning
- Tower condition and maintenance
- Control systems
- Maximum outage limits – lamps and sequence timing

Airfield Lighting Maintenance Requirements That Could Affect Operations

Airport Beacon:

- Inspection
- Cleaning – some require special procedures
- Control system
- Operational requirements

Windsocks:

- Fixture and swivel maintenance
- Proper lamps
- Constant output transformer operation
- Cleaning

Airfield Lighting Maintenance Requirements That Could Affect Operations

Guidance Signs:

- Cleaning
- Required locations – allowable outages
- Constant output transformers

Constant Current Regulators:

- Maintenance – proper equipment and procedures
- Personnel safety – maintenance requires “Live” work
- Megger testing and documentation of series circuits.



Airfield Lighting Maintenance Requirements That Could Affect Operations

Airfield Lighting Control systems:

- PLC operation and maintenance
- Touch screen interfacing

Obstruction Lighting:

- Cleaning and maintenance
- Operational requirements
- Lamp type and sizing

2009/2010 CAEA Sub-committee RECOMMENDATIONS

- Agencies or Organizations that might assist us in establishing and enforcing our recommendations:
 - Canadian Electrical Code Section 74
 - Provincial Electrical Inspection Departments
 - Transport Canada – Inspectors, SMS, or other
 - Canadian Labour Code
 - Provincial Occupational Health & Safety
 - Canadian Electricity Sector Council
 - Other suggestions?



CAEA SUB-COMMITTEE CANEW 2010 REPORT

Canadian Airports Electrical Association
Association Électrique des Aéroports Canadiens



QUESTIONS & DISCUSSION

Canadian Airports Electrical Association
Association Électrique des Aéroports Canadiens



ALL IN
FAVOUR OF
ACCEPTING
THESE
RECOMMENDATIONS?

Canadian Airports Electrical Association
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