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### 1.0 PURPOSE

1.1 The purpose of this document is to provide guidance for the completion of Construction Review Datasheets (CRD) for compliance with UL's DAP requirements.

### 2.0 SCOPE

- 2.1 These instructions apply to all certification projects involving the UL Mark for Canada (cUL and cUR).
- 2.2 These instructions also apply to certification projects involving component evaluation under UL's Unlisted Component Program to the Canadian Standard referenced in the end product Standard. A separate CRD against the referenced Standard for the Unlisted Component is required.

### 3.0 GENERAL

- 3.1 A CRD shall be completed if construction criteria that are specified in the Canadian requirements are being applied for the investigation. This would include bi-national and tri-national requirements. If there is no actual construction change to the product (e.g. a rating change only or change in model designation) or new model that is the same as the existing certified model except for model designation being added to the file and no need to re-evaluate the construction, a CRD would not be needed.
- 3.2 When the primary product standard references other standards, only a single CRD for the primary product Standard is required. If a product involved a component that is to be separately evaluated to the referenced component standard and resulting in a separate Report, then a separate CRD for the referenced component standard shall be completed.
- CRD is not required for General Coverage categories. However, when a product constructed with features that do not comply with the specific construction described in the Follow-Up procedure for general coverage, a construction review shall take place and a CRD shall be completed.

Note: **General Coverage** is a UL program for clients that manufacture products in specific categories (CCNs) where all or part of a UL Standard is included in the UL Follow-Up Procedure

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- 3.4 When completing CRDs for products using CB Style TRF Report Format, refer to paragraph 5.4 for instructions.
- 3.5 If creating IECEx Scheme test report (ExTR), refer to paragraph 5.5 for instructions.
- **3.6** The recommended method of completing the CRD is electronically.
- **3.7** When only adding an additional manufacturer to a Procedure volume, a CRD is not required.

### 4.0 MATERIALS/EQUIPMENT

For CB style reports, a Report Generator such as UltraLink, UltraClient, or other tool may be used, as well as various TRF report forms for the applicable product categories.

### 5.0 REQUIREMENTS/PROCEDURES

- **5.1** For New Products
- 5.1.1 Obtain the appropriate CRD template from your regular UL contact engineer for each standard used in the investigation of the product.
- 5.1.2 Open the header and type in the project number (if known) and file number. Type the name of the staff who has been authorized by UL as the Authorized Signatory for conducting product construction review in the field of Printed name and Signature in the same font of body content. Fill in the date of the review. Close the header.
- 5.1.3 Complete the Sample Identification and Measurement Instrument Tables as necessary.
  - A. When more than one model is included in a CRD, the Sample Identification Table shall identify the differences in construction. The following pre-printed statement may be checked in the CRD if appropriate.
    - "[] Indications of compliance apply to all samples identified with specific indications of compliance included for construction differences of the different samples."
  - B. Measurement equipment shall be identified in the measurement Instrument Table and this table is considered the original record. The following preprinted statement shall remain unchecked since the measurement is not performed at a UL facility.
    - "[]Measurement instrument information is recorded on UL's Laboratory Project Management (LPM) database. (This statement may be selected only if CRDs are completed at a UL facility)"
- 5.1.4 Obtain a copy of the standard identified. It must be used in conjunction with the CRD UL does not endorse any vendors or products referenced herein.

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form to provide details about the construction requirements.

- 5.1.5 For each clause identified,
  - A. Indicate if the product construction complies, does not comply or the clause is not applicable (N/A).
  - B. Where the clause specifies a dimension, the dimensions measured and the location(s) of the dimension(s) shall be recorded, and the measurement instrument used is to be identified (this should correlate to the measurement instrument list at the beginning of the package). When means other than measurement instruments are used to determine compliance such as production part drawings, the specific method of determining compliance shall be identified under the comments column
  - C. The intent is to record the measurements that demonstrate compliance with the requirement. Where the requirement is a minimum dimension, such as with creepage and clearance, it will be sufficient to record the minimum of the dimensions measured. Where the requirement is a maximum dimension, such as with power supply cord length, it will be sufficient to record the maximum of the dimensions measured.
  - D. Where the clause specifies a number of items, such as ventilation openings, or sizes, such as screw size or wire gauges, the number of items or sizes observed shall be recorded.
  - E. Where the clause contains sub-requirements, each sub-requirement shall be addressed if B and C above are applicable.
  - F. Where the clause references another Standard, the indication of compliance will document that compliance with the requirements of the referenced Standard have been determined.
  - G. When more than one sample is included in the CRD, specific indications of compliance are needed for constructions differences of the different samples. Under the comments column, the different models reviewed are to be identified, along with the measurements, if applicable, to that sample.
  - H. Where noncompliance issues exist, the nonconformance shall be noted in the comment field of the CRD and the "NO" column marked to allow for further details to be added once the nonconformance is resolved.
    - Once the nonconformance is corrected, either by reviewing a new sample or providing documentation indicating the intent to correct, the NO shall be struck through and the "YES" column selected.

The resolution shall be placed in the comment column with the noncompliance

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comment and included with the final CRD.

- 5.1.6 The completed CRD is submitted to UL for review as part of the product submittal package and supporting documentation.
- 5.2 For Alternate Constructions Or New Models That Are Similar To Currently Certified Products
- 5.2.1 Obtain the generic CRD template (as shown in the Example 2, Form Name: ULS-02377-AAAG-ConstructionReview-2002) from your regular UL contact engineer. Fill in project related information into the CRD where applicable. Alternatively, the form and procedures for a new product in 5.1 can be used.
- 5.2.2 Open the header and type in the project number and file number. Type the name of the Authorized Signatory conducting the construction review in the field of Printed name and Signature in the same font of body content. Fill in the date of the review. Close the header.
- 5.2.3 Complete the Sample Identification and Measurement Instrument Tables as necessary.
  - A. When more than one model is included in a CRD, the Sample Identification Table shall identify the differences in construction. The following pre-printed statement may be checked in the CRD if appropriate.
    - "[] Indications of compliance apply to all samples identified with specific indications of compliance included for construction differences of the different samples."
  - B. Measurement equipment shall be identified in the measurement Instrument Table and this table is considered the original record. The following preprinted statement shall remain unchecked since the measurement is not performed at a UL facility.
    - "[]Measurement instrument information is recorded on UL's Laboratory Project Management (LPM) database. (This statement may be selected only if CRDs are completed at a UL facility)"
- 5.2.4 Identify the applicable standard and issued or edition number in the spaces indicated.
- 5.2.5 Obtain a copy of the standard identified. It must be used in conjunction with the CRD form to provide details about the construction requirements.
- 5.2.6 Identify the applicable clause numbers, enter into the form and include a short summary of the requirement(s)
- 5.2.7 For each clause identified,
  - A. Indicate if the product construction complies, does not comply or the clause is not applicable.
  - B. Where the clause specifies a dimension, the dimensions measured and the location(s) of the dimension(s) shall be recorded, and the measurement instruments used is to be identified (this should correlate to the measurement instrument list at the beginning of the package). When means other than

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measurement instruments are used to determine compliance such as production part drawings, the specific method of determining compliance shall be identified under the comments column.

- C. The intent is to record the measurements that demonstrate compliance with the requirement. Where the requirement is a minimum dimension, such as with creepage and clearance, it will be sufficient to record the minimum of the dimensions measured. Where the requirement is a maximum dimension, such as with power supply cord length, it will be sufficient to record the maximum of the dimensions measured.
- D. Where the clause specifies a number of items, such as ventilation openings, or sizes, such as screw size or wire gauges, the number of items or sizes observed shall be recorded.
- E. Where the clause contains sub requirements, each sub requirement shall be addressed if b and c above are applicable.
- F. Where the clause references another Standard, the indication of compliance will document that compliance with the requirements of the referenced Standard have been determined.
- G. Where more than one sample is included in the CRD, specific indications of compliance are needed for constructions differences of the different samples. Under the comments column, the different models reviewed are to be identified, along with the measurements, if applicable, to that sample.
- H. Where noncompliance issues exist, the nonconformance shall be noted in the comment field of the CRD and the "NO" column marked to allow for further details to be added once the nonconformance is resolved.
  - Once the nonconformance is corrected, either by reviewing a new sample or providing documentation indicating the intent to correct, the NO shall be struck through and the "YES" column selected.
  - The resolution shall be placed in the comment column with the noncompliance comment and included with the final CRD.
- 5.2.8 The completed CRD is submitted to UL for review as part of the product submittal package and supporting documentation.
- **5.3** Making Changes or Error Corrections
- 5.3.1 If an error is made, correction of the error shall be made by using strikethrough, recording the correct information, initialing the change and providing a reason for the change (if the reason is not obvious).

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- 5.3.2 Text shall not be completely obliterated and data shall not be over written.
- 5.4 Completing CRDs for Products Using CB Style TRF Report Format

This section covers instructions for completion of Construction Review Datasheets (CRD) for the C-UL Mark Program when generating a CB Scheme style TRF report whether or not a Report Generator (such as UltraLink, UltraClient, etc.) is used.

- 5.4.1 The TRF report enables user to document clause-by-clause constructional findings of the product under evaluation.
- 5.4.2 The TRF report template has construction data tables for recording measurements that are applicable to the product under investigation. When using report generator (such as UltraLink, UltraClient, etc.), other sections/locations within the template (e.g., General Product Information, Enclosure, Remarks & Verdict, Supplementary Information, etc.) are also available to record applicable constructional comments as appropriate.
- 5.4.3 Only those Construction Review (CR) requirements (e.g. national differences) that are not already covered in the TRF template will need to be documented. Construction comments that are applicable to the product to be submitted and measurements are recorded throughout the TRF report format.
- 5.4.4 The instruments used to measure applicable constructions shall be recorded.
- 5.4.5 When following this procedure utilizing a Report Generator (such as UltraLink, UltraClient, etc.) to generate the TRF report, other forms of comprehensive CRDs are not needed. The measurement information may be recorded in the following places: the General Product Information (GPI), Result-Remark, Supplementary Information, Enclosures, etc, portions of the report. When there is uncertain as where is the most appropriate location to document the required information, contact your UL regular contact engineer.
- 5.4.6 When NOT using a Report Generator to create the TRF, the Construction Compliance Review Record, Generic for CB Scheme Reports Form (Form Name: ULS-02377-AAAG-ConstructionReview-2004) obtained from your UL regular contact engineer shall be completed.
- 5.4.7 Complete the Sample Identification and Measurement Instrument Tables as necessary. (See 5.1.3 and 5.2.3).
- 5.4.8 UL is responsible to confirm the work noted above when reviewing a TRF report where applicable measurements are involved.

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- 5.5 Completing CRDs for Products Using IECEx Scheme ExTRs
- 5.5.1 The IECEx Scheme ExTRs shall be completed in accordance with instruction obtained from your regular UL contact engineer. Completing IECEx Scheme ExTRs, with the following additional requirements. When following this procedure, other forms of comprehensive CRDs are not needed.
- 5.5.2 The applicable measurement to the product to be submitted shall be documented. This information shall be recorded in the Result-Remark portion of the ExTRs.
- 5.5.3 If there are any national differences for Canada, the IECEx Test Report of National Differences shall be completed in accordance with instruction obtained from your regular UL contact engineer in addition to the ExTR.
- 5.5.4 Obtain the Construction Compliance Review Record, Generic for IECEx Scheme Reports (Form Name: ULS-02279-AANZ-ConstructionReview-2013) from your regular UL contact engineer.
- 5.5.5 Open the header and type in the project number and file number into the CRD. The name of the Authorized Signatory conducting the construction review and the date of the review shall be typed in. Close the header.
- 5.5.6 Complete the Sample Identification and Measurement Instrument Tables as described in <u>5.1.3</u> above.
- 5.5.7 The completed CRD is submitted to your regular UL contact engineer for review.

### 6.0 RECORDS

6.1 Upon completion of examination for the construction of products, a copy of CRD shall be stored in accordance with your company's quality system and record retention policy.

### 7.0 EXAMPLES

Example 1	New Products
Example 2	Alternate Construction or new Models similar to currently certified products

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Project No.	«ProjectNumber»	File	«FileNumber»	Page	1
Compliance				_	
Review Conducted by:	Authorized Signatory		Authorized Signatory	Date	2004-08-16
•	Printed Name		Signature	-	

CONSTRUCTION COMPLIANCE REVIEW RECORD

Sample Identification -

Sample Card No.	Date Received	Sample No.	Manufacturer, Product Identification and Ratings
XXXX	2004-08-05	1	Model 123a, Audío Widget, rated 120 V, 50-60 Hz

[]Indications of compliance apply to all samples identified with specific indications of compliance included for construction differences of the different samples.

Measurement Instrument

Inst. ID No.	Instrument Type	ryingtion/Range	Last Cal. Date	Next Cal. Date
123	ruler	6 in///2/	2004-04-01	2005-04-01
			57	

The following additional information is required when using client's or rented equipment, or when a UL ID Number for an instrument number is not used. The Inst. ID No. below corresponds to the Inst. ID No. above.

Inst. ID No.	Make/Model/Serial Number/Asset No.

[]Measurement instrument information is recorded on UL's Laboratory Project Management (LPM) database. (This statement may be selected only if CRDs are completed at a UL facility)

ULS-02377-AAAG-ConstructionReview-2001 Form Page 1

Form Issued: 2003-01-02 Form Revised: 2004-08-12 Project No. «ProjectNumber» File «FileNumber» Page 2

Compliance Review Conducted by: Authorized Signatory Authorized Signatory Signature Date 2004-08-16

### CONSTRUCTION COMPLIANCE REVIEW:

The sample was reviewed for compliance with the construction requirements in the following Standard and compliance with applicable construction requirements is noted below.

Standard CSA C22.2 No. 1 -98 Edition 1998 Revised: 2008-01-15

Clause/Par. Reference and		Comply	Y		Inst.
Construction Requirement	YES	NO	N/A	Comments/Measurements	ID No.
4. Construction					
4.1 Hazards	>				
4.1.1 Types of Hazard	\\\				
4.1.2 Corrosion	100	13			
4.2 Enclosures	7/	///	)	^	
4.2.1 Mechanical Strength		~ /</td <td>[Ox]/<sub>/</sub></td> <td></td> <td></td>	[Ox]/ <sub>/</sub>		
4.2.2 Protection from Shock Hazard		X		\$ 57	
:					
4.2.2.6 Enclosure Openings	Х			Slot width xx mm Hole diameter yy mm Distance between opening and part involving shock hazard zz mm	123
4.2.2.7 Tool Adjustments		Х		penetrating rod length xx mm	123

Project No. «ProjectNumber» File «FileNumber» Page 3
Compliance
Review

Date 2004-08-16

Conducted by: Authorized Signatory Authorized Signatory
Printed Name Signature

Clause/Par. Reference and	Comply		7		Inst.
Construction Requirement	YES	NO	N/A	Comments/Measurements	ID No.
4.2.2.8 Power Supply Cord	X	*		Product was supplied with SVT Cord as opposed to SJT.	
				Per client's letter dated 01-26-2006, Cord will be changed to SJT.	
(followed by other clauses covering all construction requirements in the standard)					
	(S)	) 			
			9//	) 3 5)	

Form Issued:

Form Revised:

2003-01-02 2004-08-12

Project No.	«ProjectNu	ımber»	File	«FileNumber»	Page	1			
Compliance Review Conducted by:  Authorized				Authorized Signator	r <u>y</u> Date	2004-12-20			
		Printed Na	ame	Signature					
CONSTRUCTIO	CONSTRUCTION COMPLIANCE REVIEW RECORD								
Sample Ider	ntification	. –							
Currently of product use comparison Report referred if not in treport):	ed for (include erences	Model:	123a, Report	issued 2004-09-1	15				
Alternate construction details:	on	Model/. V, 50-6	\ \ \ / \	ate power supply,	Part No. abo	, rated 240			
No samples received or examines, prawings or other information was provided to support the [alternate construction.] [revised construction. addition of a new model that is similar to a currently certified product.  ✓ See the following table.						ruction. ][			
Sample Card No.	Date Received	Sample No.	Manufac	cturer (Product Ident	tification and	Ratings			
XXXX		1		rated 240 V 50		-			
				$\overline{\sum}$					

[]Indications of compliance apply to all samples identified with specific indications of compliance included for construction differences of the different samples.

ULS-02377-AAAG-ConstructionReview-2002 Form Page 1

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Form Issued: 2004-08-12 Form Revised:

Project No.	«ProjectNumber»	File «FileNu	mber»	Page 2						
Compliance Review Conducted by:	Authorized Signatory	Authoriz	zed Signatory	Date 2004-12-20						
, <u> </u>	Printed Name		Signature							
Measurement Instrument Information -										
Inst. ID No.	Instrument Type	Function/Range	Last Cal. Date	Next Cal. Date						
123	ruler	6 in	2004-04-01	2005-04-01						
rented equip	owing additional 1 ment, or when a UX nst. ID No. below		n instrument nu	mber is not						
Inst. ID No.		MakeyModel/Serial	Number/Asset No.							
		9/3								
$\langle \langle \rho \rangle_{\Delta}$										
	(10)/									
	Measurement instrument information is recorded on UL's Laboratory Project anagement (LPM) database. (This statement may be selected only if CRDs are									

completed at a UL facility)

Project No.	«ProjectNumber»	File	«FileNumber»	Page	3	
Compliance Review						
Conducted by:	Authorized Signatory		Authorized Signatory	Date	2004-12-20	
-	Printed Name		Signature	_		

### CONSTRUCTION COMPLIANCE REVIEW:

Due to similarity to the existing construction described under "Sample Identification", a limited review for compliance with the construction requirements in the following Standard was conducted. The construction requirements applicable to the [ alternate ] { revised } construction and compliance with those requirements are noted below.

Standard CSA C22.2 No. 1 -	$88 \bigcirc$	Edit	tion	1998 Revised: 2	008-01-15
	$\langle \vee \rangle$				
Clause/Par. Reference and	40	Omply	N/A	Comment of Management	Inst.
Construction Requirement	I IFA	The T	N/A	Comments/Measurements	ID No.
			<u> </u>		
4.2.2 Protection from Shock Hazard	Х		2/3		
4.2.2.7 Tool Adjustments	X	<i>\</i>		penetrating rod length	123
(followed by other clauses covering requirements applicable to the alternate construction )					

ULS-02377-AAAG-ConstructionReview-2002 Form Page 3

Form Issued: 2004-08-12 Form Revised:

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Only those products bearing the UL Mark should be considered as being covered by UL.

Project No. Compliance	«ProjectNumber»	File	«FileNumber»	Page	4
Review Conducted by:	Authorized Signatory		Authorized Signatory	Date	2004-12-20
-	Printed Name		Signature	•	

