OM-4-2017

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OPERATIONAL MANUAL
for the
CERTIFICATION
Of
COOLING TOWERS

OM-4-2017

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Modifications as against last version:

Nb	Modifications	Section	Page
1	Add notification that prior to 8 month deadline for fast track audit, should this audit not take place then the participant shall provide ECC with a declaration for very low volume of that range. Should this very low volume extend the additional note has been added. Should the participant maintain a very low volume declaration within a two year period…….	III.2	5
2	Failure treatment has been clarified for minimum period of one year or longer until the compliance requirements have been met.	III.4	5
3	Comment added in that should the participant maintain a very low volume declaration within a two year period…….	IV.3	8
4	Failure treatment has been clarified for minimum period of one year or longer until the non-conformity has been corrected, also addition of corrective action plan to be completed following non-conformities during the factory audit with timelines and also clarification should a critical non-conformity be observed that could compromise the performance quality to the customer following a fast track / very low volume audit.	IV.4	9 / 10
5	Alternative solution to provide unit range name & diploma no. to ECP mark for application to product advertising & physical on the unit	V.2	11
6	Alternative solution to provide unit range name & diploma no. to ECP mark for application on unit	Appendix C	16
7	Additional note to outline the timeline for very low volume declaration & explanation why certification shall be maintained from participant.	Appendix D	17
8	Update of notes to clarify fast track & very low volume process for certification committee approval granting / maintaining certification. Removal of appendix E, previous Appendix F has now been renamed Appendix E.	Appendix F	18

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I. PURPOSE

The purpose of this manual is to prescribe procedures for the operation of the Certification Programme for Open & Closed-Circuit series Cooling Towers within Eurovent Certita Certification, in accordance with its Certification Manual.

II. SCOPE

The Eurovent Certified Performance (ECP) for Cooling Towers applies to product series (family) & sub-group ranges (or product lines) of Open & Closed-Circuit series Cooling Towers.

The programme applies to product series & sub-group ranges that:

- have already achieved and hold current certification by the COOLING TECHNOLOGY INSTITUTE (CTI) according to latest CTI STD-201OM
- are not in process or certified by CTI before 01/10/2010, manufactured by a company with their cooling tower headquarter or main facility located in the following areas (approved Eurovent Certita Certification areas)
    - Europe
    - Middle East, Africa
    - India

The ECP certification can only be obtained for products manufactured or sold in the approved Eurovent Certita Certification areas.

Manufacturers from other areas of the world should contact CTI directly. CTI is also offering the possibility to manage access to the Eurovent Certita Certification certificate when requested by the manufacturer. Conversely, Eurovent Certita Certification is offering the possibility for access to the CTI label when requested by the manufacturer after a Eurovent Certita Certification certificate is obtained.

Certification by Eurovent Certita Certification doesn't imply compliance with any local regulations (like CE marking).

III. BASIC OUTLINE OF THE PROGRAMME

Participation in the Certification Programme for Cooling Towers of Eurovent Certita Certification consists of the following:

III.1 Application procedure

After the licence agreement is signed between the manufacturer and Eurovent Certita Certification, the application procedure shall be completed according to relevant process map (see IV.2f).

III.2 Qualifying procedure

Once the application procedure is completed the qualification procedure is articulated in the following 3 steps:

- Ranges (lines) analysis based on declared data. As declared in the CTI STD 201 OM a manufacturer may declare a product range / line with a denotation of a series (family name) which in turn may have sub-ranges (groups) declared. These sub-ranges are of similar characteristics, i.e. module size, and any differences to performance must be identified in the notes after the model declaration. The thermal performance of any model in a sub-range will also certify the series associated to the declared sub-range. In the case of Eurovent Certita Certification the Data of Record, Diploma & ECP Website, will identity the series name & any associated sub-ranges. Each sub-range will have its own diploma no. due to the possibility that not all sub-ranges from the CTI certified series are being ECP certified, and as Eurovent Certita Certification also certifies the factory location, not all sub-ranges in a CTI certified series may be produced in all manufacturing locations. The purpose of this

breakdown of product sub-group to series structure in the Eurovent Certita Certification declaration is to enhance the transparency of the certification of series & sub-range usage that has been born from the CTI certification

- Sample product to be tested - one product per range per year. Note: any sub-group range product model within a series can be tested to qualify the complete series.

Note if qualification through the CTI collaboration route, then Eurovent Certita Certification must receive the approval letter & test report from CTI administration.

- Audit at manufacturing location (validation of conformity) of the declared ranges, covering the declared ranges - one audit per factory per year. Should the applicant or new range already have undertaken the required thermal performance test, then the unit range can be declared via Fast track ECP certified with the intent of a factory audit within the first 8 months of certification (note, should this range be of a very low volume nature not to allow an audit to be conducted then the manufacturer shall provide a declaration letter prior to the 8 month deadline to Eurovent Certita Certification, should a certifiable order then become available this must be immediately informed to Eurovent Certita Certification / Auditor so that an audit check can be arranged). Should a participant be found to ship a range that has not been audited within this low volume category, then it will be reviewed by the certification committee for immediate critical non-conformity and possible suspension, until the range can be audited. Should the participant maintain a very low volume declaration within a two year period, then it shall be required to provide ECC with a declaration letter together with an explanation why the product shall maintain its certification status, thereafter for each consecutive year the participant shall provide both the declaration letter supported with the explanation why the certification shall be maintained.

Note: During the factory audit the auditor can review any one of the sub-ranges in a given series for it to qualify the declared series.

If the results show conformity with the Eurovent Certita Certification Rating Standard RS 9/C/001, certification is granted according to the certification schedule.

III.3 Repetition procedure

Every year, Eurovent Certita Certification shall check whether the data of record per existing series / sub-group range and new ranges still fulfil the requirements. Then all declared series / ranges should be tested and related factories audited, should the participant enter the programme through the CTI collaboration route, then every year Eurovent Certita Certification will obtain the declaration letter from the CTI administrator together with the thermal performance test report. Should these CTI documents be no longer available for any reason whatsoever, the Participant shall be informed by Eurovent Certita Certification of its potential suspension from the ECP programme. If the results are in accordance with the relevant Rating Standard, the certification is renewed according to the certification schedule.

III.4 Failure treatment

When a product line fails to comply with the requirements, the product line is suspended from certification for a minimum period of one year or longer until the compliance requirements have been met.

III.5 Complaint procedure

Under special conditions a complaint procedure may be carried out as described in the Certification Manual.

IV. OPERATION OF THE PROGRAMME

IV.1 Presentation of data in application, qualification and repetition procedures

In the application procedure, the type of the Applicant (agent, importer, manufacturer etc.) shall be specified.

Submittal for certification of Cooling Tower ranges shall be made in writing and sent by e-mail to Eurovent Certita Certification as.xls/.xlsx /.doc files.

- For the Company general information, Form CT-1 shall be used
- An Authorization form shall be filled in, Form CT-2, signed and sent by post to Eurovent Certita Certification (3 copies)
- Form CT-3 shall be completed for declaration of any factory where the product series / sub-group ranges to be certified are manufactured (inside or outside Europe), as Factory List.
- For all selected series / sub-group ranges submitted by an Original Equipment Manufacturer (OEM), Form CT-4 shall be used as Declaration list.
- For all selected series / sub-group ranges submitted by a Brand Name Manufacturer (BNM), Form CT-5 shall be used to identify the corresponding model number of the OEM as Declaration List.
- For equipment manufactured in approved Eurovent Certita Certification areas, a Technical datasheet (or Data of Record) shall be completed, with technical description of all components, in Form CT-4.

Copies of the forms are part of this manual (see APPENDIX A). All characteristics shall be expressed in SI Units.

Confidentiality of certification data: All data submitted to Eurovent Certita Certification shall be held confidential except for information authorised to be published in the Eurovent Certified Performance website.

IV.2 Certification procedure

a. Application procedure

The Applicant shall complete all the forms and submit all the relevant documentation (see IV.1) for each applied range.

Eurovent Certita Certification shall check that the applicant is actually located in approved Eurovent Certita Certification areas and/or does sell these products in approved Eurovent Certita Certification areas.

b. Qualification procedure

After analysis of the series / sub-group ranges is completed an equipment test shall be conducted by an independent agency selected by Eurovent Certita Certification on one model from each series or range (if the manufacturer declares a series with several sub-group ranges then only one model from any of these sub-group ranges needs to be selected to cover the complete product series).

When models are unavailable for test in the laboratory, field installations shall be tested.

The independent agency shall send a Test Report to Eurovent Certita Certification. Eurovent Certita Certification shall transfer it to the Manufacturer, together with the Eurovent Certita Certification Test Results.

Then, audit at manufacturing location for validation of conformity (see IV.3) is organised by Eurovent Certita Certification. Independent audit agency shall send Audit Report to Eurovent

Certita Certification. Eurovent Certita Certification shall transfer it to Manufacturer, together with Eurovent Certita Certification Audit Conclusions.

When all the results show conformity with the relevant Rating Standard (see also IV.3 Factory audits) and all fees have been settled, series / range certification is granted.

c. Modifications of product lines or ranges

The Participant shall automatically apply any change he makes to the CTI certified product lines to the Eurovent Certita Certification declared series / ranges, be it a physical change or a change in ratings. CTI will automatically inform Eurovent Certita Certification of any changes that apply to the CTI certified product lines under the Eurovent Certita Certification -CTI scheme, and vice versa.

Eurovent Certita Certification can check if a participant fulfils his obligations in following the changes in approved areas within an acceptable time frame. A period of more than 6 months after the CTI notification (and vice versa) is not acceptable and will be treated as non-application of procedures.

d. Naming non-certified product series or ranges (lines)

When a manufacturer also produces a product series or range that doesn't require to submit for certification, they shall have a significantly different range name from the certified range. If the non-certified range can be selected in the same selection tool, it shall be clear that this range is not certified. This rule has been included in order to avoid confusion between certified and non-certified ranges. However, this rule does not override the CTI 201 OM for when application conditions take the selection out of the certified operation envelope.

e. Repetition procedure

The Participant has to ensure that there is conformity between the Cooling Towers designs he manufactures and sells and the design described in the application form and tested. Thermal performance conformity is verified on an annual base by an independent test agency, which performs a test of one model per product.

If the verification on site is done, then the site must not be older than 12 (twelve) months from date of inspection. If the manufacturer makes changes to his design, this will require a new application file and a new test.

When all the results show conformity with the relevant Eurovent Certita Certification Rating Standard (see IV.3 Factory Audits) and all fees have been settled, series / range certification is renewed according to the certification schedule.

f. Participant schedule

Schedule of participation for Participants and Applicants (also when converting from the CTI programme to include Eurovent Certita Certification) can be found in APPENDIX D.

IV.3 Factory audits

a. General

Audit shall be done either in each of the relevant manufacturer's factories or on selected sites, if necessary. To determine this, Eurovent Certita Certification will contact the manufacturer requesting information about:

- relevant units in production
- relevant units delivered during the last 12 months

Based on that, Eurovent Certita Certification (auditor agency) will determine the site(s) for audit and advise the audit agency. If both options are possible the manufacturer's factory is the preferred choice.

Note: for the auditors safety prior to factory or site audits the participant must provide in advance safety provisions to the auditor i.e. Safety Risk Assessment, Safety Needs including Equipment, etc. If these are not provided or confirmed, then the audit will not take place until they have been provided.

The audits shall be ordered by the manufacturer upon notice by Eurovent Certita Certification. The audit costs shall be paid by the manufacturer to Eurovent Certita Certification.

If audits are not conducted within the time limitations specified in the notification received from Eurovent Certita Certification, it is considered as non-application of procedures.

In case of force majeure (e.g. accidents, labour disputes, natural events, acts of war) which would not allow Eurovent Certita Certification to perform a factory audit Eurovent Certita Certification can decide to replace it by another mean of verification, to postpone it within a reasonable deadline or to cancel it.

For manufacturers presenting at least three product series / ranges, one series / range maximum may be carried over to the next year. This series / range has to be audited on the following year to remain certified.

At any one of the manufacturing facilities product series / sub-group range audit rules:

- • If > 20% or 10 models for a range / sub-group range is produced in one factory per year then that range of product must be seen during the year's audit (except as defined with this OM). Its certification will be valid for this factory.
- • If < 20% or 10 models for a range / sub-group range is produced in one factory per year, date of (new) audit shall be fixed when the range / sub-group range can be seen at the factory within 6 months. Note: all Factory audits can take place during N year, therefore this enables manufacturer to have an extension for 6 months. This audit in N+1 will not constitute to the approval for the N+2 year diploma. Should a range/s have no production in a given year this shall be classified as a very low volume unit and it is understood that the participants wishes to maintain certified so that possible orders may be achieved in the future. The participant shall provide before December 1st on each given year a declaration letter that no production activity has taken place of this range during the year. Should the participant maintain a very low volume declaration within a two year period, then it shall be required to provide ECC with a declaration letter together with an explanation why the product shall maintain its certification status, thereafter for each consecutive year the participant shall provide both the declaration letter supported with the explanation why the certification shall be maintained.

This low volume rule shall not override the requirement as indicated above that if a manufacturer presents 3 products when only one can be carried over to the next year.

If audits are not conducted within the time limitations specified in the notification received from Eurovent Certita Certification, it is considered as non-application of procedures.

b. Purpose

Purpose of the audit is to:

- verify that the manufacturer builds the equipment that conforms as per registered data of record from each relevant factory; if products from the certified range series / sub-group cannot be observed in the factory, then field installations of models of that range series / sub-group sold in that year from the unavailable factory shall be audited;
- identify any issues that may arise with regard to differences in regional sourcing of components, such as fans, fill, nozzles etc.

c. Verification of purchase specifications

Purchase specifications for the following components must comply with the data of record submitted:

- fans;
- fill or raw material for fill in case of own production (e.g. pvc or pp);
- eliminators;
- air inlet louvers.

d. Verification of physical data

- note model number from nameplate;
- check exterior dimensions;
- check motor nominal capacity;
- check drive combination/ gear ratio;
- check fan type (brand and model), material, number of blades;
- check fill type, material, number of layers, number of blades;
- check tower geometry;
- check water distribution design, nozzle type and number;
- check eliminator type, material;
- other features as per physical data sheet.

e. Audit Report and Audit Conclusions

After evaluation, a non-conformity is classified '**critical**' when the following cases are identified:

- there is a significant risk regarding the product conformity with respect to applicable requirements;
- there is a significant risk regarding the quality management system ability to control the product conformity with respect to applicable requirements;
- a specific non-conformity already pointed out during a previous audit is observed again;

Otherwise the non-conformity is **non-critical**.

In case of non-conformity, the applicant/participant shall be requested to provide Eurovent Certita Certification with a corrective actions plan within the deadline specified by the auditor (see also IV.4 for the audit failure treatment procedure).

IV.4 Failure treatment

In case of non-conformity, Eurovent Certita Certification shall initiate the appropriate failure treatment procedures. The outcome of the failure treatment procedures may be that the product range is suspended from certification for a minimum period of one year or longer until the non-conformity has been corrected.

The Audit failure treatment consists of the following (See Figure 1):

- In the case of non-critical non-conformity, the manufacturer shall send Eurovent Certita Certification the corrective action plan within 1 month of the audit with an indication date for when the corrective action(s) will be resolved. Any corrected documentation or DOR figures shall be required prior to the next audit of that factory.
- In case of critical non-conformity, the manufacturer shall send Eurovent Certita Certification the corrective action plan within 1 month of the audit with an indication date for when the corrective action(s) will be resolved. Any corrected documentation

or DOR figures shall be required within 3 months. Should a critical non-conformity be found following a 'fast track' or 'very low volume' audit it shall be considered by the auditor if the performance quality of the product to the customer has been compromised. If this is the case then the auditor may demand immediate provable corrective actions to take place and evidence passed to the ECC auditor using the corrective action report. Acceptance of the solved corrective action will be acknowledged by the auditor and passed back to the participant to enable shipment of the identified unit.

After 4 consecutive audits with, at least, o*ne critical non-conformity the Participant is suspended for one year.*

- *Lack of documents: The Auditor requires clarification about one component described in the production BOM that the manufacturer doesn't have available to compare with declared Data of Record for a specific listed model checked (non-critical).*
- *Lack of Eurovent Certita Certification evidence: The label is used in Technical or Commercial documentation but a listed model is not highlighted (non-critical).*

If not solved from previous audit, a non-critical non-conformity becomes a critical non-conformity.

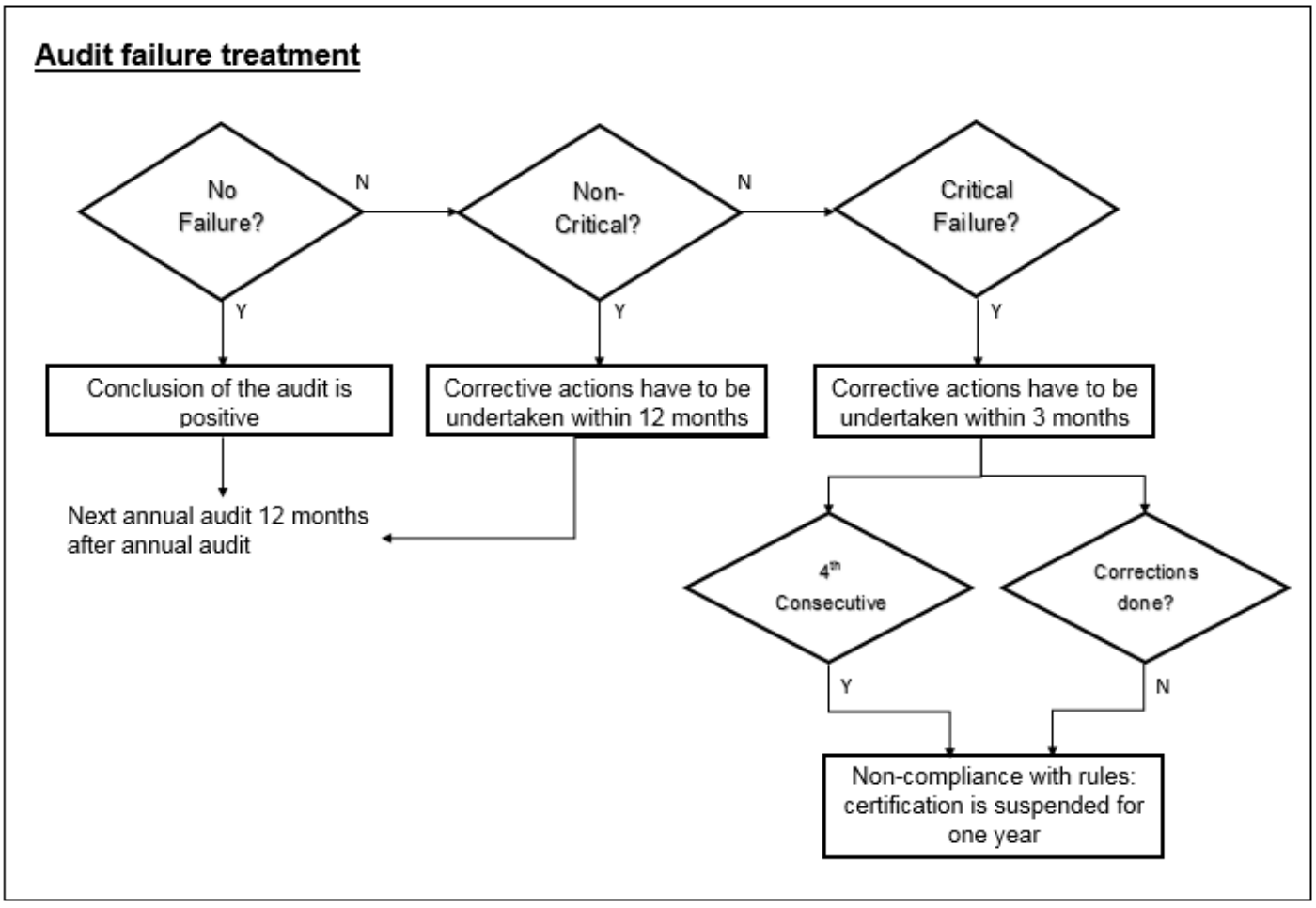


Figure 1: Audit failure treatment

IV.5 Non-application of procedures

In case of non-application of procedures, the Participant shall be notified by Eurovent Certita Certification that his company name and associated complete list of products will be withdrawn

from the website, within one month, for a period of one year (see Certification Manual for more details).

V. PROMOTION OF THE PROGRAMME

V.1 By Eurovent Certita Certification

The certified data of the certified products are published on the Eurovent Certified Performance website: www.eurovent-certification.com.

The following information pertaining to each series / range (line) certified shall be published in the Eurovent Certified Performance web page for Cooling Towers:

- Name of Company
- Trade or brand name of series & sub-group range or range only (if not part of a series)
- Manufacturing location
- Software Selection name & version (should this be applicable)
- Direct link to the PA certified products webpage *and to the CTI documents.*

V.2 By Participants

Details regarding the general usage of the Eurovent Certified Performance mark are provided in Certification Manual in the chapter “Promotion of the programme”.

The Participant shall indicate his participation in the Programme for Cooling Towers by displaying the appropriate Eurovent Certified Performance mark on all specification sheets and in other literature and software carrying ratings, or claiming certification, of certified series / sub-group models. Depending on the readability of the range name & diploma (text size) on the certification mark, the participant shall use alternative methods as identified in the ECP certification manual to confirm with the promotion of the certified range(s) & diploma number(s).

The participation to the Certification Programme for Cooling Towers within Eurovent Certita Certification may further be indicated by:

Display of ECP certification mark on production units

Each Participant shall display the ECP mark, in an authorised manner, on units of models which have been certified. He may display the symbol on each certified production unit by means of a label, approved by Eurovent Certita Certification. It shall be noted that should the range name & diploma number not be included on the ECP mark, then this information shall be required on an alternative permanent location on the unit e.g. unit data name plate.

No data or other marking shall be added to the label. The participant may affix the ECP mark at any location thereon satisfactory to him. The certification symbol shall conform to the design approved for the mark (specification for which will be supplied by Eurovent Certita Certification) in all respects, including design, dimensions, letter size and style, and colour. The acceptable colour combinations consist of green Pantone No. 341 on white or black on white.

APPENDIX A. FORMS

A.I. Form CT-1: General company information

You have to fill in one company sheet and as many sheets as factories

*Cells with * are mandatory to be filled in*

Cells with X will be completed by ECC

General informations	ECC ID	X	
	Phone No.	*	
	Fax		
	General e-mail	*	
Invoicing of fees	Name	*	
	Address	*	
	Postcode	*	
	City	*	
	Country	*	
mandatory if within EU	TVA No.	*	
Address for ECC website	Public name		
if different from invoicing adress	Public address		
	Postcode		
	City		
	Country		
use format +33 1 49 96 69 81	Phone No.	*	
use format +33 1 49 96 45 11	Fax		
if different from general e-mail	Email	*	
ISO certifications			
e.g. ISO 9001, ISO 14001	ISO Type		
use format 2010/12/26	Validity date		
attach relevant pdf	File name		
Main contact	Position		
	Civility	*	
	Firstname	*	
	Lastname	*	
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Second contact	Position		
	Civility		
	Firstname		
	Lastname		
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Third contact	Position		
	Civility		
	Firstname		
	Lastname		
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Trade names	Trade name 1	*	
	Website 1	*	
	Website 2		
	Website 3		
	Trade name 2		
	Website 1		
	Website 2		
	Website 3		
	Trade name 3		
	Website 1		
	Website 2		
you can add lines if necessary	Website 3		

A.II. Form CT-2 : Authorization Form

We undersigned:

- Applicant or Participant to the Certification Programme for Cooling Towers within Eurovent Certita Certification

or/and

- Participating Company to the CTI Certification Program

Authorize the transfer of data of record and field test reports for the product series & sub-group ranges (lines) noted on the form below (including the CTI validation number) when applicable:

- transfer and filing from Eurovent Certita Certification to CTI
- transfer and filing from CTI to Eurovent Certita Certification

for use with your application and maintenance of Eurovent Certita Certification and CTI (if required) certification.

Product Series / Sub-group Model Line Designation	CTI Validation Number	PRODUCTION FACTORY				
		1	2	3	4	5

Factory

	Address	Country
1		
2		
3		
4		
5		

OEM Company Name:

_____

Brand Name (BN) Company Name (if applicable):

_____

Authorized Signature:

_____

Title of Signer:

_____

(To be filled in and signed in 3 original copies)

Date: _____

A.III. Form CT-3: Factory declaration

Information to be provided for each of the manufacturing plants which produce the product series / sub-group ranges (lines) to be certified in Europe.

You have to fill in one company sheet and as many sheets as factories
*Cells with * are mandatory to be filled in*
Cells with X will be completed by ECC

General informations	ECC ID	X	
	Company type	X	Factory
	Parent	X	
	Phone No.	*	
	Fax		
	General e-mail	*	
Invoicing of audits	Name	*	
if different from company adress	Address	*	
	Postcode	*	
	City	*	
	Country	*	
mandatory if within EU	TVA No.	*	
ISO certifications			
e.g. ISO 9001, ISO 14001	ISO Type		
use format 2010/12/26	Validity date		
attach relevant pdf	File name		
Main factory contact	Position		
if different from main contact	Civility	*	
	Firstname	*	
	Lastname	*	
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Second factory contact	Position		
	Civility		
	Firstname		
	Lastname		
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Third factory contact	Position		
	Civility		
	Firstname		
	Lastname		
if different from invoicing adress	Address		
	Postcode		
	City		
	Country		
Ranges	Range 01	*	
add here the names of the ranges	Range 02		
*produced in **this** factory*	Range 03		
	Range 04		
	Range 05		
	Range 06		
	Range 07		
	Range 08		
	Range 09		
you can add lines if necessary	Range 10		

B.I. Form CT-4: Technical Datasheet (Data of Record)

Information to be provided for each product series / sub-group range (line) manufactured in Europe.

General(GEN)	Manufacturer
	Product Line
	Submission Revision Date
	Product Type
	Draft Type
	Flow Type
	Fan Type
	Model Number
	Nominal Water Flow Rate
	Nominal Temperature Conditions
	Number of Cells
	Number of Fans per Cell
	Number of Fan Motors Per Cell
	Total Nameplate Fan Motor Power per Model
	Total Rated Fan Motor Power per Model
	Number of Pumps per Cell
	Total Nameplate Pump Power per Model
	Total Rated Pump Power per Model
	Flowrate of Recirculating Water
	Static Pressure at Recirculating Water Inlet
	Overall Height of Unit
Axial Fans	Fan Diameter
	Standard Fan Center Hub or Seal Disk Diameter
	Fan stack Height
	Fan Stack Inlet Area
	Fan Stack Throat Area
	Fan Stack Discharge Area
	Fan Blade Pitch Adjustement
Centrifugal Fans	Fan Wheel Outside Diameter
	Fan Wheel Width
	Fan Wheel Housing Width Dimension "A"
	Fan Wheel Housing Outside Dimension "B"
	Fan Wheel Housing Inside Dimension "C"
	Fan Wheel Housing Discharge Area
Elim	Eliminator Type
	Eliminator Gross Area per Cell
Air Inlet Louvers	Louver type
	Louver Gross Face Area per cell
	No. Air Inlet Faces per cell
	Air Inlet Height
	Louver Spacing
Wet Heat Transfer Media	Fill Type
	Fill Height
	Counterflow No. of Fill Layers
	Crossflow Air travel
	Internal Cell Lengh
	Internal Cell Width
	Fill Total Gross Face Area per Cell
	Film Fill No. of Sheets over Cell Width
	Film Fill No. of Sheets over Cell Length
	No. Splash Bars in Cross Section
	Splash Bars Pattern
	Splash Deck No. of layers
Heat Exchanger	Heat Exchanger Type
	Number of Heat Exchangers per Cell
	Heat Exchanger Total Number of Plates
	Heat Exchanger Number of plates type A
	Heat Exchanger Number of plates type B
	Heat Exchanger Number of plates type C
	Heat Exchanger Plate Height
	Heat Exchanger Plate Width
	Heat Exchanger Plate Depth Inside
	Heat Exchanger Number of Passes
	Heat Exchanger Number of Rows or Passes
	Heat Exchanger Number of Tubes or Passes
	Heat Exchanger Tube Diameter
	Heat Exchanger Width
	Heat Exchanger Length
	Heat Exchanger Surface Area
	Heat Exchanger Number of Inlet Nozzles
	Heat Exchanger Inlet Nozzle Size
	Heat Exchanger Number of Outlet Nozzles
	Heat Exchanger Outlet Nozzle Size
	Heat Exchanger Gross Free Area
	Heat Exchanger Process Fluid
	Heat Exchanger Pressure Drop
Water Distribution	Water Distribution Type
	No. Inlet Connections per Cell
	No. Nozzles or Orifices per Cell
	Underside of Nozzle Height above Media or Heat Exchanger
Geometric Data	Ratio of Prop Fan Stack Throat Area to Wet Heat Transfer Media Gross Face Area
	Ratio of Centrifugal Fan Wheel Housing Discharge Area to Wet Heat Transfer Media Gross Face Area
	Ratio of Air Inlet Gross Face Area to the Total Gross Face Area of the Heat Transfer Media
	Ratio of Fan Coverage Area to Eliminator/Louver Area when projecting a circle at 45o from fan inlet opening onto the Eliminator/Louver Face and neglecting all portions of the projection which fall beyond the cell boundaries (See Appendix F, Fig A, B, and C)
	Ratio of Fan Plenum Width to Fan Plenum Length (See Appendix F, Fig D)
Attached Files	Name of ZIP data file attached to this model

B.II. Form CT-5: Declaration List by Brand Name Manufacturer (BNM) - Eurovent Certita Certification use only, for Claris

GENERIC	Product Number	Unique Eurovent Certita Certification number in its own database. This will be created during first import and will not change anymore
	Master product number	In case a Applicant/Participant presents, as Distributor (or Brand Name) a product which is manufactured and certified by another Participant, here should be inserted the Product number of the master product
	Tested On	Date of last test
	Rerated on	Date of last rerate (degradation of data after test)
	Created on	Date of creation of the product
	Last update on	Date of last modification of the product
	Status	Status of the product [New, DVP, Deleted, Certified, Obsolete]
	Participant Name	Name of the holder of the contract
	Product Name	Name of the product. This has to be unique
	Trade Name	Also called "Brand"
	Type of product	CT Open or Closed circuit
	Range Name	Series / sub-group range name (line)
	BMG	Basic Model Group. If several products have similar properties, they can be grouped in the same BMG

APPENDIX C. EUROVENT CERTIFIED PERFORMANCE MARK

The acceptable colour combinations for the Eurovent Certified Performance mark are green Pantone N° 341 on white or black on white. Any size of mark may be used, if proportions are respected. The mark shall also include the name of the certified range and the *diploma* number provided by Eurovent Certita Certification when certification is granted. *However, as an alternative it is acceptable that the name of the certified range & diploma number is permanently located elsewhere on the unit e.g. unit data name plate.*

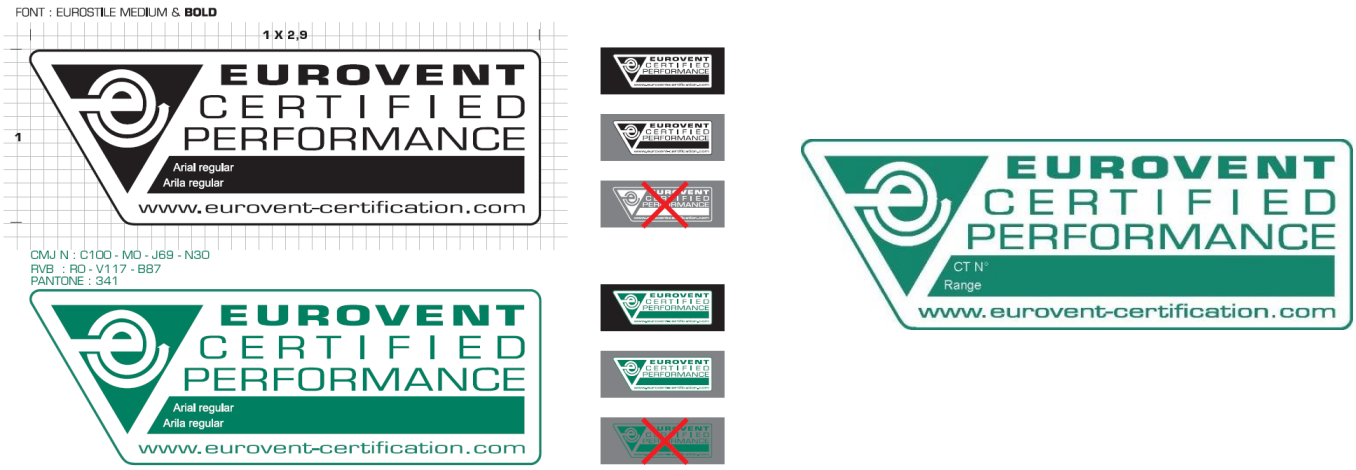


Figure 1: Eurovent Certified Performance mark specifications and Eurovent Certified Performance mark for Cooling Towers

APPENDIX D. COOLING TOWERS – APPLICATION SCHEDULE

D.I. Application schedule for manufacturer not already CTI certified

	ECC Registration to then include CTI			
Process Description	**Item No.**	**First Year**	**Item No.**	**Following years**
ECC asks for update of product list			110	**31/10/n-1**
Participant confirm product list				**31/12/n-1**
Manufacturer sends License Registration to ECC (Introduction of Programme)	030	**28th Jan 2011 (or n date)**		n/a
Product / Manufacturing & Data of Record Declaration sent to ECC	050	+2 months		
ECC inputs data into ECC database and informs CTI adminatration co-ordinator		+ 2 weeks	120	+ 2 weeks
ECC via CTI administrator undertakes Data Analysis & Selection Testing	051	+ 2 months	051	+ 2months
CTI administrator sends request for required unit to be tested(*)	052	+ 2 weeks		+ 2 weeks
CTI conducts unit testing in factory test lab or on site		**July / August / Sept +n year**	052	**July / August / Sept +n year**
CTI Adminitrator reviews prelimiary test results	053	+ 2 weeks	053	+ 2 weeks
CTI adminitsrator send test results to ECC	054	+ 1 week	054	+ 1 week
ECC Technical Department reviews Test Results	060	+ 1 week	060	+ 1 week
ECC provides test report to manufacturer		+ 1 week		+ 1 week
If test is a failure then manufacturer has possible second test				
CTI adminitsrator selects & arranges second test		+ 2 weeks		+ 2 weeks
CTI conducts second unit test in factory test lab or on site		**July / August / Sept +n year**		**July / August / Sept +n year**
CTI adminitsrator send test results to ECC		+ 2 weeks		+ 2 weeks
ECC Technical Department reviews Test Results		+ 1 week		+ 1 week
ECC provides test report to manufacturer		+ 1 week		+ 1 week
ECC auditor undertakes manufacturing facility visits(*)	070	**Between April to Oct +n year**	070	**Between April to Oct +n year**
Audit Report provided to ECC	071	+ 1 week	071	+ 1 week
ECC certification committee to approve Certificication of manufacturer	080	**meets end of month 'Oct'**	080	**meets end of month 'Oct'**
ECC to update website		+ 1 week		+ 1 week
ECC send certification diploma	090	+ 1 week	090	+ 1 week
Manufacturer sends notification to ECC to be CTI certified	095	+ 1 week	095	+ 1 week
ECC sends conformity report to CTI adminitration	096	+ 1 week	096	+ 1 week
CTI invoice manufacturer for Entrance / Registration Fee	097	+ 1 week	097	+ 1 week
CTI receive registration payment		?		?
CTI deliver diploma once payment received	099	+ 1 week	099	+ 1 week

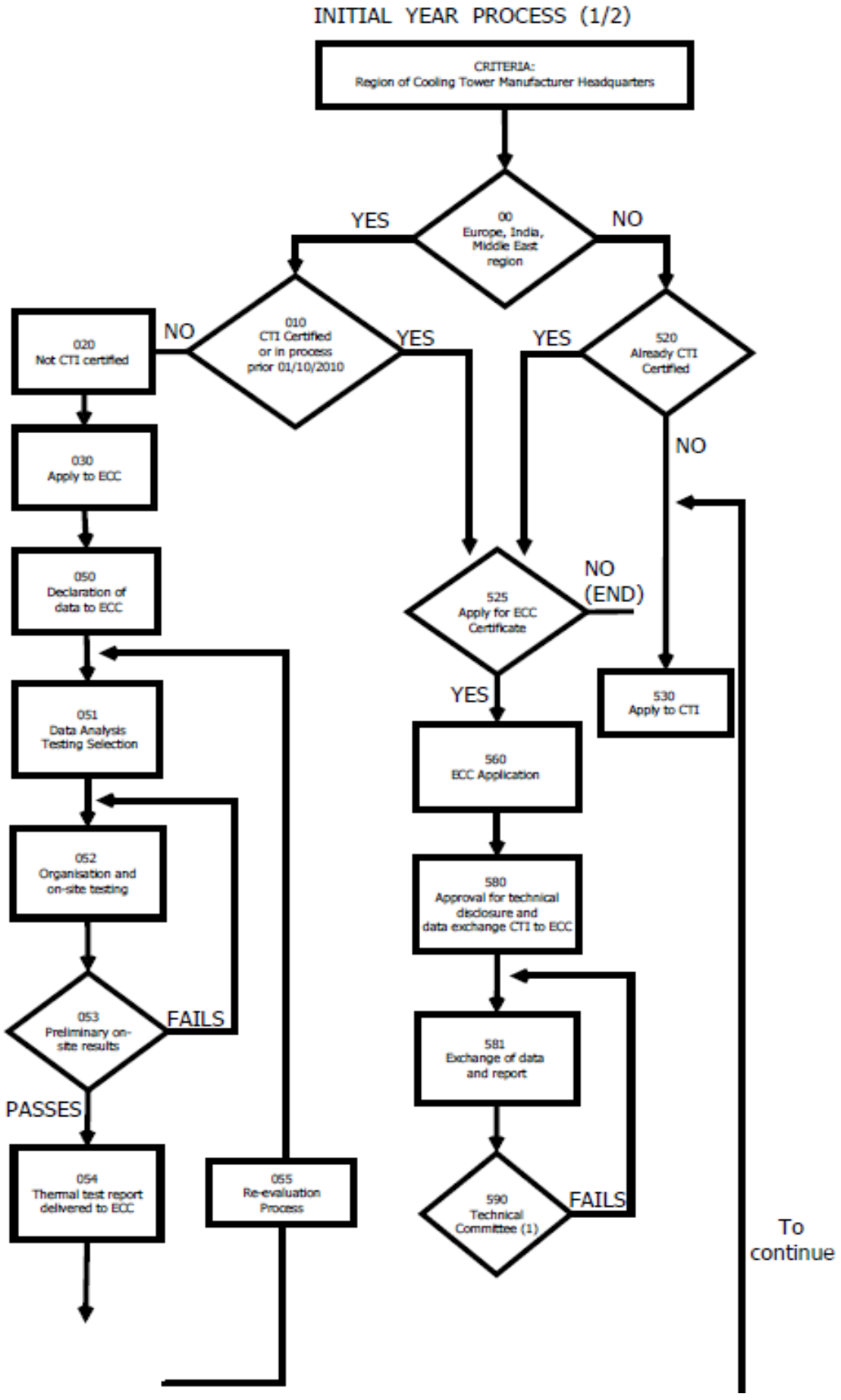
Note: Should the participant include a range using the ECC fast track process then at least a successful Thermal Performance test must have been conducted for that range. Should the range not fulfil the 8 month audit requirement, then it shall be considered as a very low volume and a Company declaration letter shall be required prior to the 8 month deadline as outline in this OM. Should this very low volume situation continue the participant shall provide ECC a declaration by 1st Dec, n year, if this continues for n+2 years then the participant provide ECC a declaration letter together with an explanation why the product shall maintain its certification status, thereafter for each consecutive year the participant shall provide both the declaration letter supported with the explanation why the certification shall be maintained.

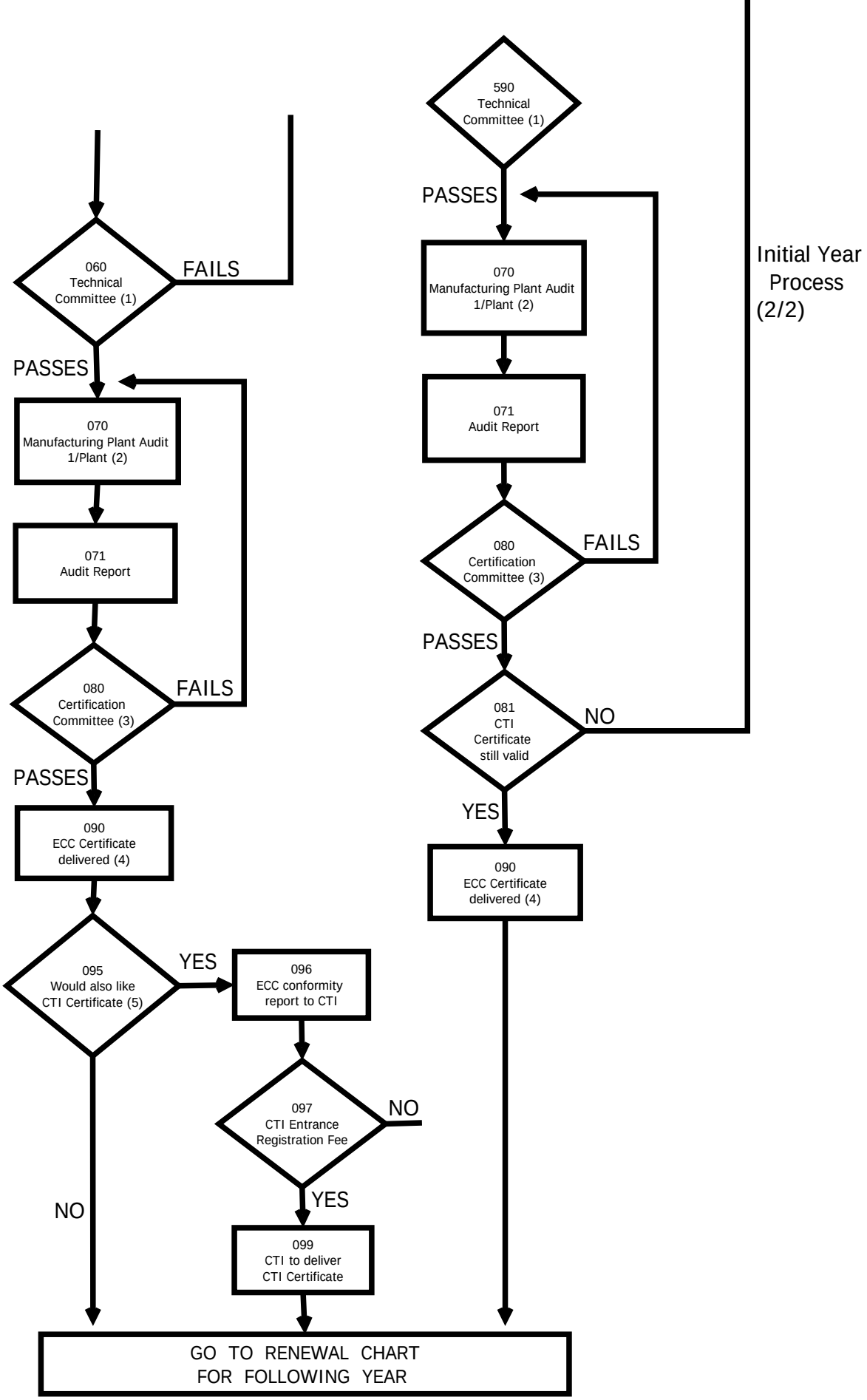
D.II. Application schedule for manufacturer already CTI certified

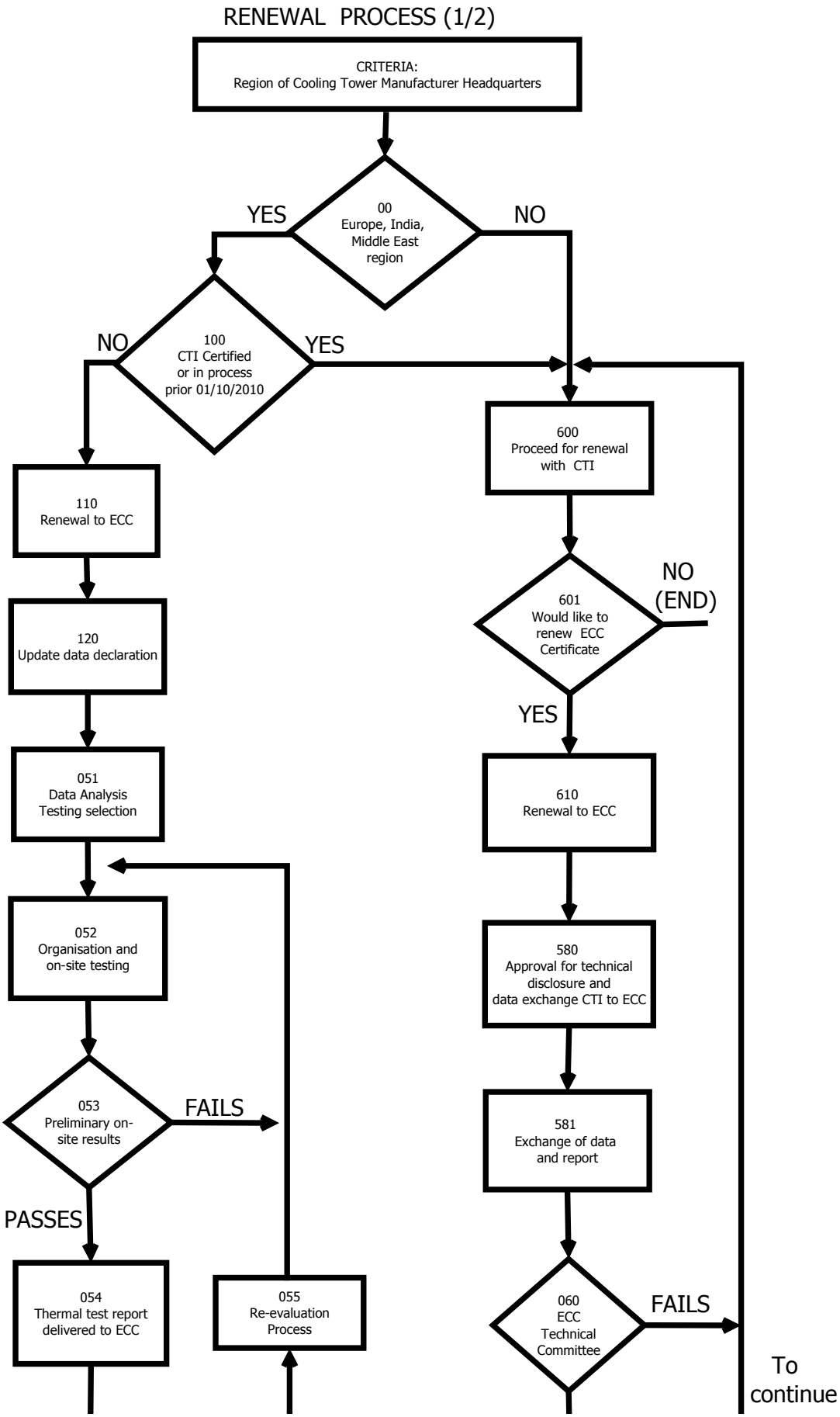
	CTI Certified to include ECC	
Process Description (CTI Certified to include ECC)	**Item No.**	**N given year**
CTI certified manufacturer applies for ECC certification	525	**n date**
ECC request data from CTI	560	+ 1 week
Approval for technical disclosure & Data exchange ECC & CTI	580	+ 1 week
Exchange of data & reports from CTI to ECC	581	+ 1 week
ECC Technical Department reviews CTI product status	590	+ 2 week
ECC auditor undertakes manufacturing facility visits(*)	070	**Between April to Oct +n year**
Audit Report provided to ECC	071	+ 1 week
ECC certification committee to approve Certificication of manufacturer & checks CTI still valid	080	**First Year 2011 will meet Oct**, thereafter meets end of each month
ECC to update website		+ 1 week
ECC send certification diploma	090	+ 1 week

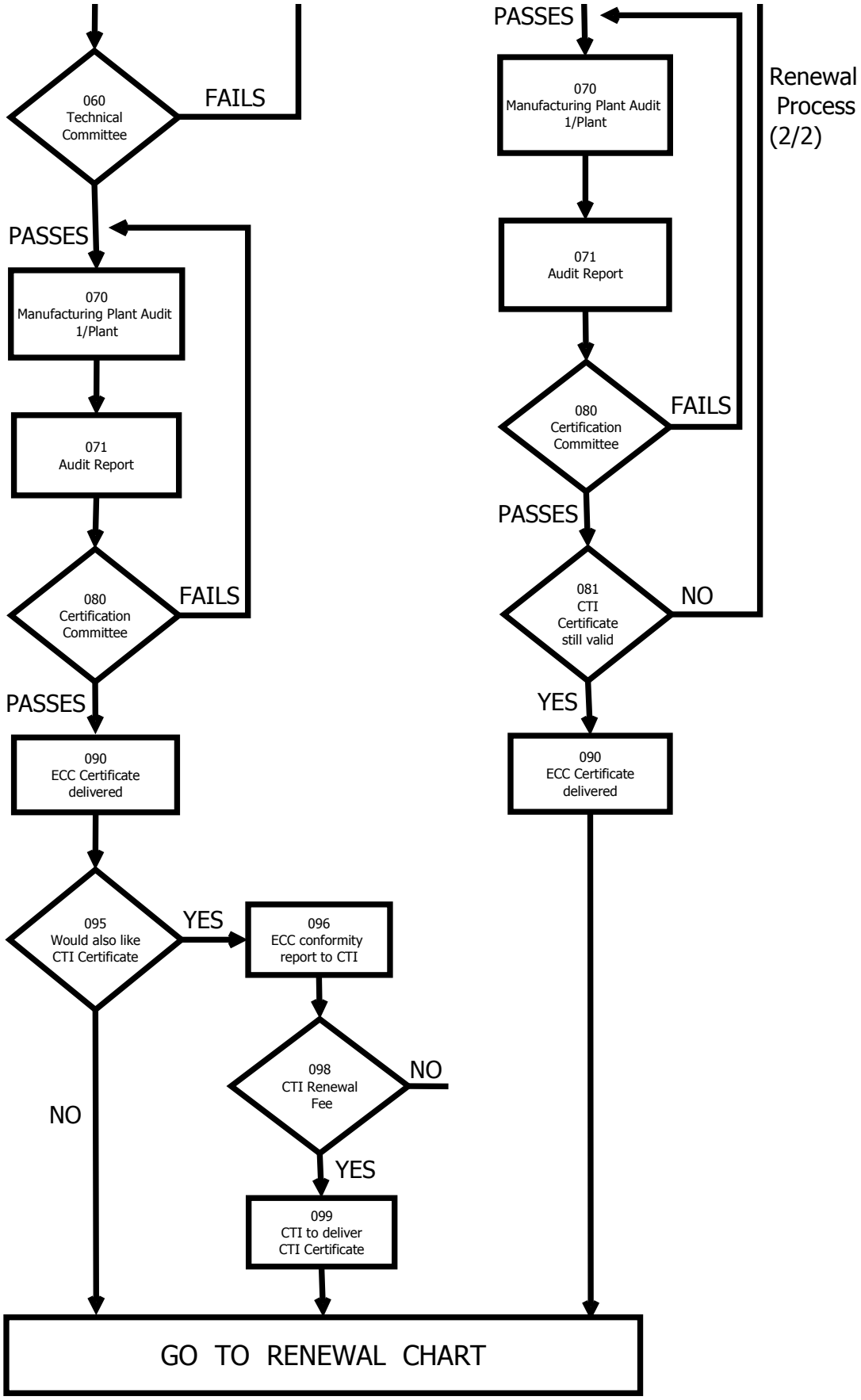
Note: Should the participant include a range using the ECC fast track process then at least a successful Thermal Performance test from CTI must have been conducted for that range. Should the range not fulfil the 8 month audit requirement, then it shall be considered as a very low volume and a Company declaration letter shall be required prior to the 8 month deadline as outline in this OM. Should this very low volume situation continue the participant shall provide ECC a declaration by 1st Dec, n year, if this continues for n+2 years then the participant provide ECC a declaration letter together with an explanation why the product shall maintain its certification status, thereafter for each consecutive year the participant shall provide both the declaration letter supported with the explanation why the certification shall be maintained.

APPENDIX E. CERTIFICATION PROCESS MAP




060
Technical
Committee (1)
FAILS
PASSES
070
Manufacturing Plant Audit
1/Plant (2)
071
Audit Report
080
Certification
Committee (3)
FAILS
PASSES
090
ECC Certificate
delivered (4)
095
Would also like
CTI Certificate (5)
YES
096
ECC conformity
report to CTI
097
CTI Entrance
Registration Fee
NO
YES
099
CTI to deliver
CTI Certificate
NO
GO TO RENEWAL CHART
FOR FOLLOWING YEAR
590
Technical
Committee (1)
PASSES
070
Manufacturing Plant Audit
1/Plant (2)
071
Audit Report
080
Certification
Committee (3)
FAILS
PASSES
081
CTI
Certificate
still valid
NO
YES
090
ECC Certificate
delivered (4)
Initial Year
Process
(2/2)


RENEWAL PROCESS (1/2)
CRITERIA:
Region of Cooling Tower Manufacturer Headquarters
00
Europe, India,
Middle East
region
YES
NO
100
CTI Certified
or in process
prior 01/10/2010
NO
YES
110
Renewal to ECC
120
Update data declaration
051
Data Analysis
Testing selection
052
Organisation and
on-site testing
053
Preliminary on-
site results
FAILS
PASSES
054
Thermal test report
delivered to ECC
055
Re-evaluation
Process
600
Proceed for renewal
with CTI
601
Would like to
renew ECC
Certificate
NO
(END)
YES
610
Renewal to ECC
580
Approval for technical
disclosure and
data exchange CTI to ECC
581
Exchange of data
and report
060
ECC
Technical
Committee
FAILS
To
continue


060
Technical
Committee
FAILS
PASSES
070
Manufacturing Plant Audit
1/Plant
071
Audit Report
080
Certification
Committee
FAILS
PASSES
090
ECC Certificate
delivered
095
Would also like
CTI Certificate
YES
096
ECC conformity
report to CTI
098
CTI Renewal
Fee
NO
YES
099
CTI to deliver
CTI Certificate
NO
GO TO RENEWAL CHART
PASSES
070
Manufacturing Plant Audit
1/Plant
071
Audit Report
080
Certification
Committee
FAILS
PASSES
081
CTI
Certificate
still valid
NO
YES
090
ECC Certificate
delivered
Renewal
Process
(2/2)

(1) Fast Track route: Technical Committee makes recommendation to Certification Committee to provide ECC certification diploma for 8 month period.
(2) Manufacturing Plant Audit 1/Plant to be undertaken within 8 months of ECC Certification diploma provided, should no unit be available for an audit inside this period the participant shall be required to provide ECC with a very low volume declaration.
(3) Certification Committee review to make sure Factory audit has been conducted within the 8 months, or the participant has provided prior to this deadline a very low volume declaration.
(4) ECC certification diploma is updated and delivered to participant.
(5) Fast Track Route: Once ECC have provided a certification diploma then participant has option to enter for CTI certification.

Note: Should the participant include a range using the ECC fast track process then at least a successful Thermal Performance test must have been conducted for that range. Should the range not fulfil the 8 month audit requirement, then it shall be considered as a very low volume and a Company declaration letter shall be required prior to the 8 month deadline as outline in this OM. Should this very low volume situation continue the participant shall provide ECC a declaration by 1st Dec, n year, if this continues for n+2 years then the participant provide ECC a declaration letter together with an explanation why the product shall maintain its certification status, thereafter for each consecutive year the participant shall provide both the declaration letter supported with the explanation why the certification shall be maintained.