

AERC Manufacturer Informational Webinar

Summer 2017



Agenda

- Introductions
- Background and Progress
- Terminology
- Technical Background and Structure
- Certification Process
- Manufacturer Enrollment Process and Fees
- Next Steps

Background

AERC is a DOE-funded, independent, **public interest** organization whose mission is to **rate, label and certify** the **energy performance of window attachments.**

AERC members include:

- Window attachment product and component manufacturers
- Public Interest Groups
- National Labs
- Commercial Labs
- Efficiency Organizations and Utilities



- U.S. Department of Energy
- Kellen Company
- D+R International
- Lawrence Berkeley National Laboratory
- Intertek

- Deliver **energy performance-based rating and certification standards** and procedures for residential and commercial fenestration attachments.
- Provide a public website and database of **fenestration attachment product performance**.

- Organization formed Fall 2014
- Focus on developing technical and certification standards for residential window attachments
- Developing residential product label and consumer-facing certified product database and website
- Board is majority public-interest

Phased Prioritization of Ratings

Attachment	Product Category Major Sub-Types				Product Phase
	Interior	Exterior	Fixed	Operable	
Cellular Shades	X			X	1
Slat Shades	X			X	1
Roller Shades	X			X	1
Storm Windows	X	X	X	X	1
Solar Screens		X	X		1*
Pleated Shades	X			X	1*
Awnings		X	X	X	2
Roller Shutters		X		X	2
Window Quilts	X			X	2
Drapes	X			X	3
Louvered Shutters	X	X		X	3
Roman Shades	X			X	3
Surface Applied Films	X	X	X		If needed
Sheer Shades	X			X	If needed

- Launch EP Software Tool – Fall 2017
- Certify Products – Fall 2017
- Certified Products Database and Website launch – Fall 2017
- Label in stores— Winter 2017
- Public Education – On-going

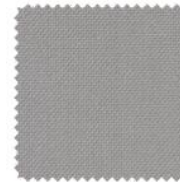
Terminology

Product Terminology

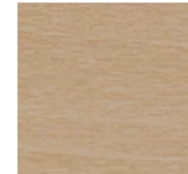
- Substrate Material

- The primary material component in an attachment composing the majority of the effects on blocking light and thermal energy which is also a selectable input originating in the CGDB, IGDB, or NFRC 101, as appropriate for the material.

- Examples: woven fabric



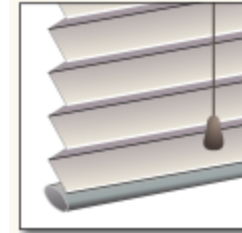
wood



- Attachment Product
 - An individual assembled fenestration covering product attached to fenestration, or attached to or near the perimeter of the inner or outer wall surrounding fenestration
 - Refers to an individual product configuration
 - See AERC 1, Section 5.2

Example: Pleated Shades

- Individual products for which distinct performance properties shall be determined are distinguished by differences in one or more of the following characteristics:
 - Pleat width
 - Shade material type
 - With added liner
 - Multiple materials on shade front and back
 - Products incorporating edge tracks or edge seals
 - Horizontal vs. vertical operation
 - Interior vs. exterior use
 - Unique CGDB or IGDB listing
- Products with different paints, colors, or finishes for head/ bottom rails shall not be considered different products
- Example individual product configuration:
 - ½ inch pleat width, non-woven white light filtering fabric (CGDB #12345), no liner, no edge tracks or seals, horizontal, interior mount

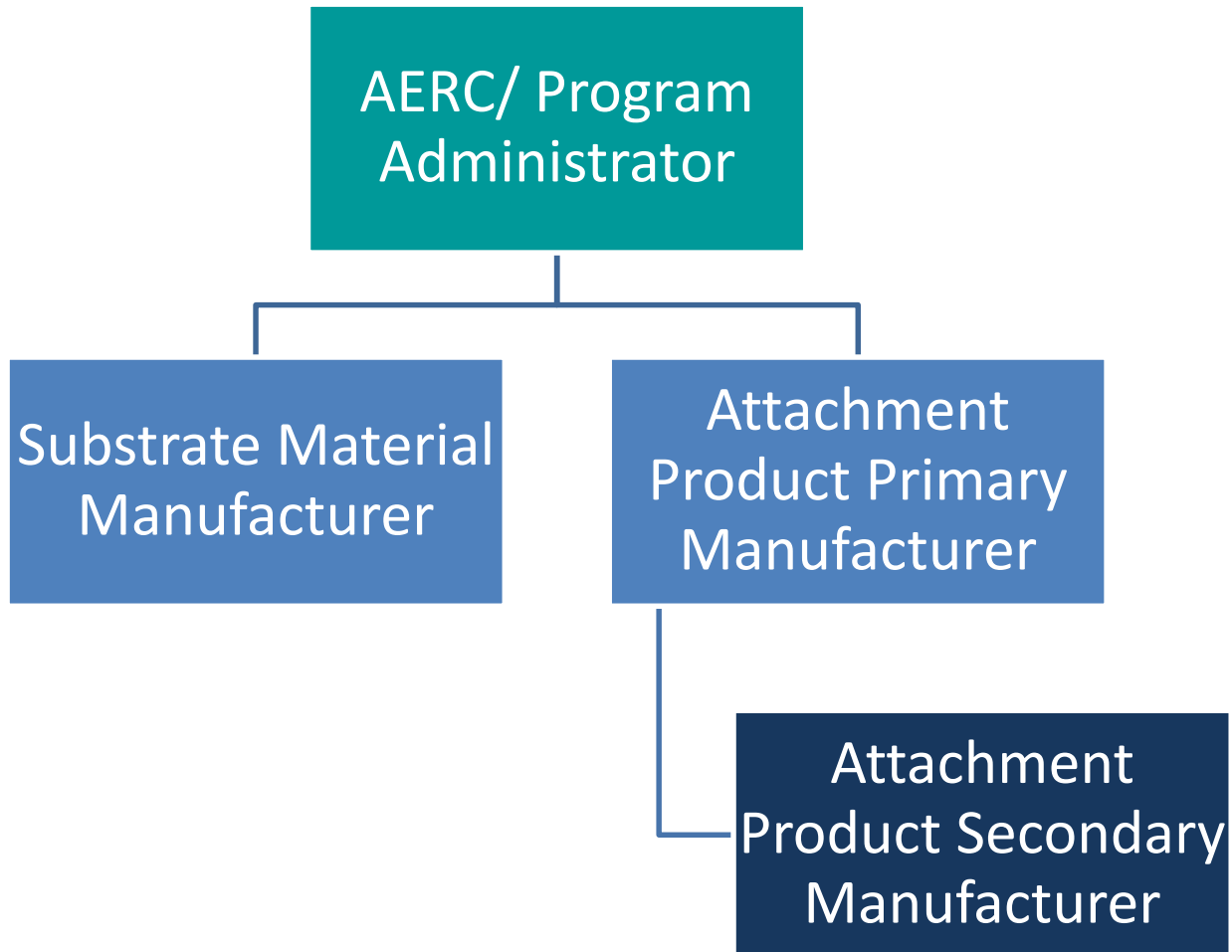


Manufacturer Terminology

- Substrate Material Manufacturer
 - An entity that manufactures Substrate Materials
- Attachment Product Manufacturer
 - An entity that either directly manufactures/ assembles components and materials into a complete attachment product under license (Primary Manufacturer) or purchases the right to re-brand another manufacturer's products under their own name (as Secondary Manufacturer)

- Primary Manufacturer:
 - An entity that qualifies products under their own name and designs or under license
- Secondary Manufacturer:
 - Acquires listings derived from the listings of a Primary Manufacturer. They are derived from the foundational Primary Listing and are subservient, limited versions thereof.
 - No rights other than the limited rights of notice and listing as they exist in program documents, and in the Secondary Listing Agreement
 - Status of their listings are dependent on the Primary Listing status
 - No right of recourse against the AERC, its officers or sub-contractors for suspension or termination of listings

Manufacturer Relationships



- **Accepted**
 - A manufacturer who has applied and whom the Administrator has allowed to participate in the AERC Product Certification Program, as evidenced by a fully executed Authorization Agreement.
- **Active**
 - An accepted manufacturer with at least one product accepted for inclusion into the Certified Products Database and has not expired or been removed for cause. The actual period of active status extends to the end of the calendar year in which participation fees were paid unless terminated or suspended for disciplinary reasons or at the request of the participant.
- **Suspended**
 - A previously active manufacturer that the Administrator designates as problematic (due to verification testing failure, unpaid fees, etc.) and needs to be remedied before either becoming Active again or being removed.
 - Listings may be suspended in the CPD
- **Removed**
 - A status in which a previously active manufacturer and its listings are removed from the AERC program due to reasons such as violation of the Authorization Agreement, voluntary withdrawal, or expiration.

Listing Terminology

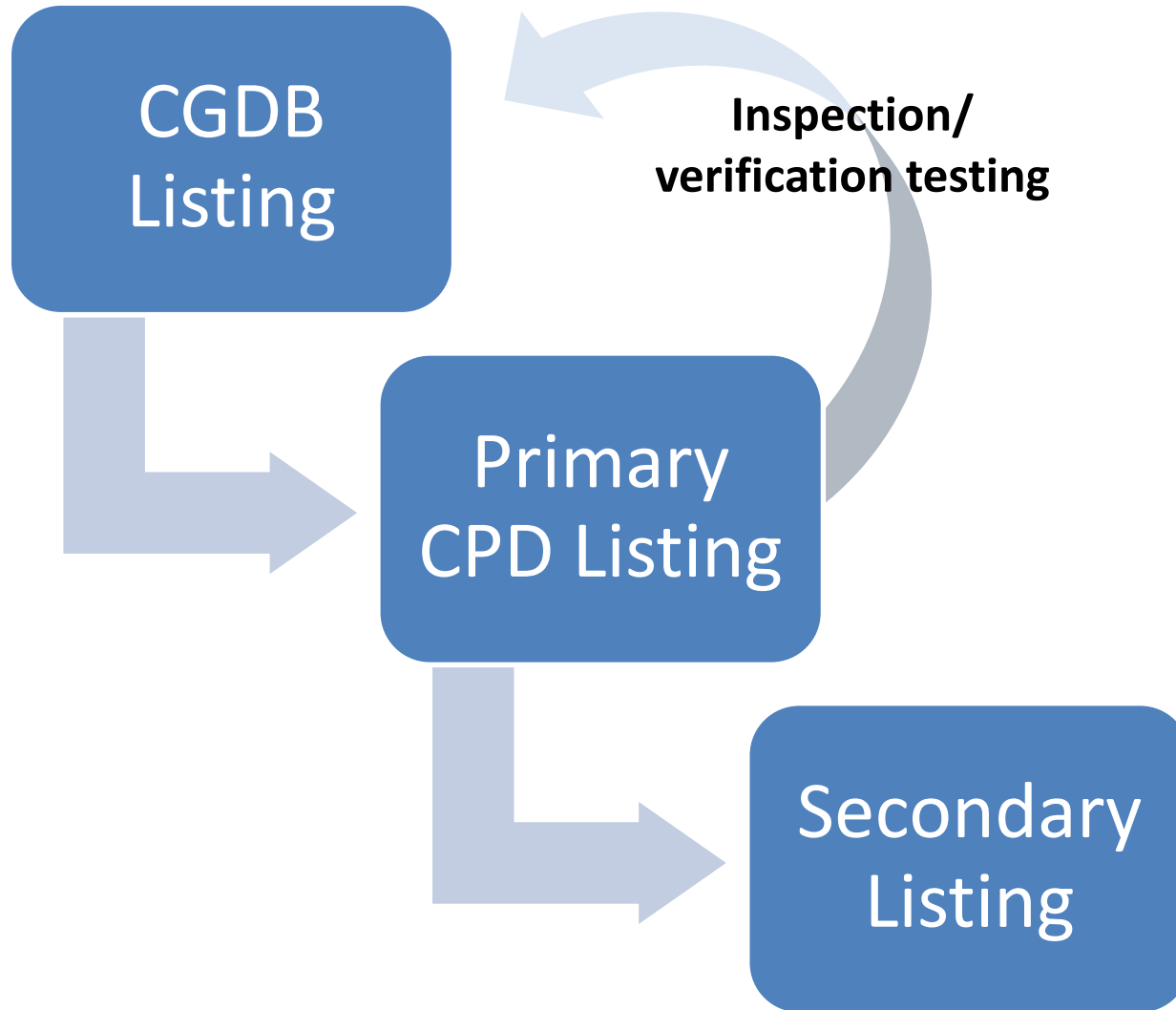
- **Complex Glazing Database (CGDB) Listing**
 - A single, completely unique substrate tested or grouped in accordance with AERC 1.1 and submitted, reviewed, and accepted into the CGDB. May also require additional entries for describing properties in different stages of open
 - Example: Fabric X White 123
- **Certified Products Database (CPD) Listing**
 - A single, completely unique attachment product configuration submitted through an Accepted Calculation Entity and accepted into the CPD.
 - Example: 3/4 inch Light Filtering Single Cell Cellular Shades

- Primary Listing:
 - An accepted CPD listing, submitted by the original manufacturer of an attachment product through an Accepted Calculation Entity (ACE).
- Secondary Listing:
 - An accepted CPD listing, submitted by the original manufacturer of an attachment product through an ACE, for an attachment product that is physically exactly the same as a Primary Listing but will be marketed under the name of the Secondary Manufacturer.
 - Secondary Listings are predicated on a Primary Listing and derive their qualification from an existing Primary Listing in good standing, but have restrictive rights that flow only from the rights of the Primary Manufacturer.

Listing Status Terminology

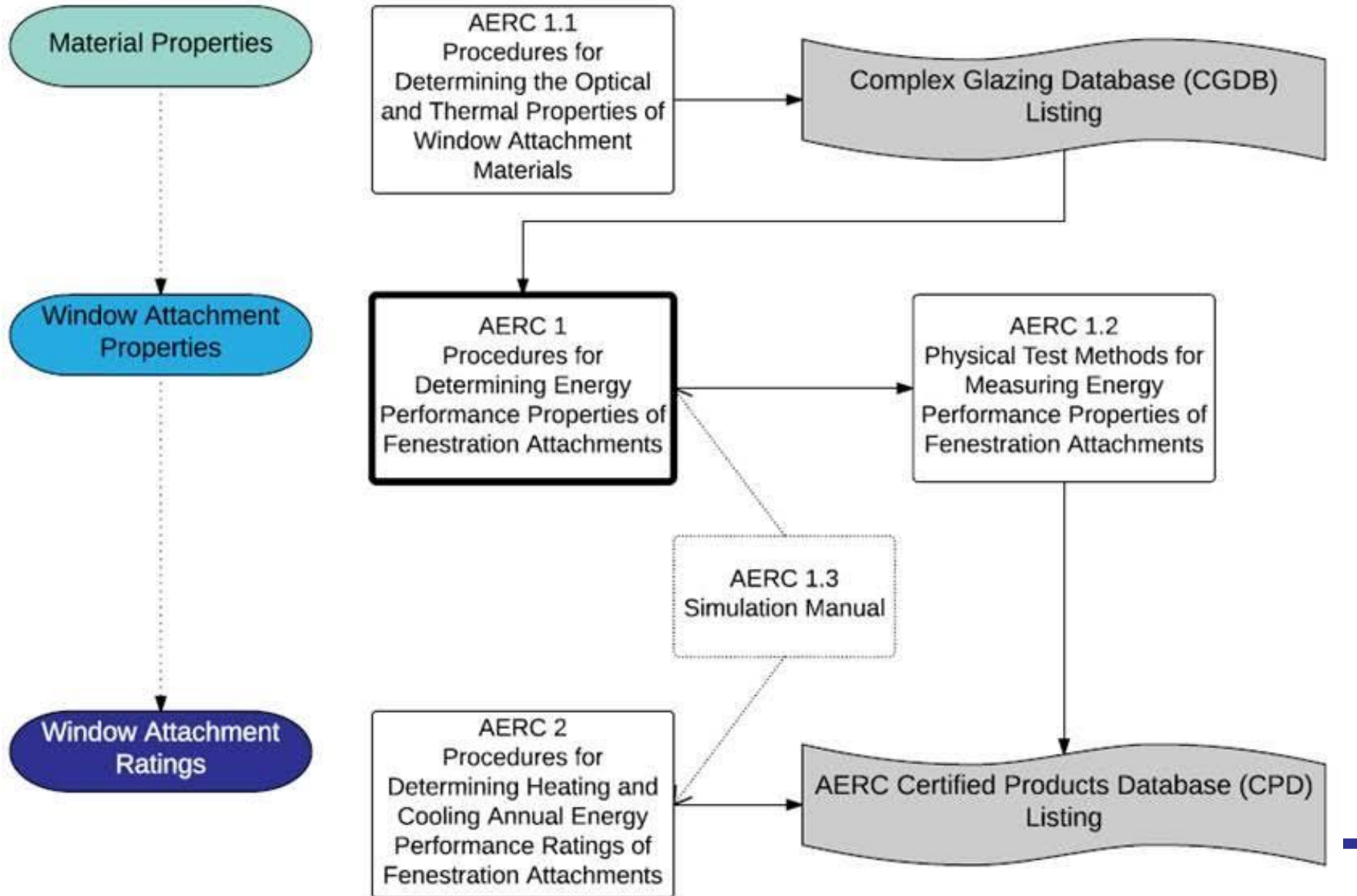
- **Accepted**
 - A product for which a Manufacturer has applied to be listed in the CPD, and the Administrator has "accepted" it for inclusion in the CPD and it may be labeled as complying with all AERC program requirements.
- **Active**
 - A listing that has been accepted to the CPD, is publicly shown on the Certified Products Website (CPW), and whose listing is not expired, suspended, or delisted.
- **Certified**
 - A listing that has been designated by the manufacturer as complying with all relevant program requirements as specifically evidenced by a Certified Product Listing Report and its Authorization Agreement.
- **Suspended**
 - A previously accepted listing that the Administrator designates as problematic (due to verification testing failure, manufacturer participation issue, etc.) and needs to be remedied before either becoming active again or being delisted.
 - The product will not show up on the CPW
- **Delisted**
 - A status in which a previously qualified attachment product or material is removed from the CPD based on the Administrator's disqualification of the product, voluntary withdrawal, or expiration.

Listing Relationships



Technical Background and Structure

Relevant Technical Standards



Technical Process Overview

Material Performance

- Tested according to AERC 1.1
- Entered in Complex Glazing Database (CGDB)

Product Performance

- Simulated according to AERC 1
- Determine U-Factor, SHGC, VT, and AL
- Software: WINDOW and THERM
- Entered in Certified Products Database (CPD)

Energy Performance

- Calculated according to AERC 2
- Determine Annual Energy Performance Rating for Heating and Cooling
- Software: AERCalc
- Entered in Certified Products Database

AERC 1: Procedures for Determining EP Properties of Fenestration Attachments

- Defines procedures for rating the energy performance properties of fenestration attachments
- Properties include:
 - U-factor
 - Solar heat gain coefficient (SHGC)
 - Visible transmittance (VT)
 - Air leakage (AL)
- Attachments are rated over a specified baseline window (B)
- Provides grouping methodology for each product categories to reduce simulation load

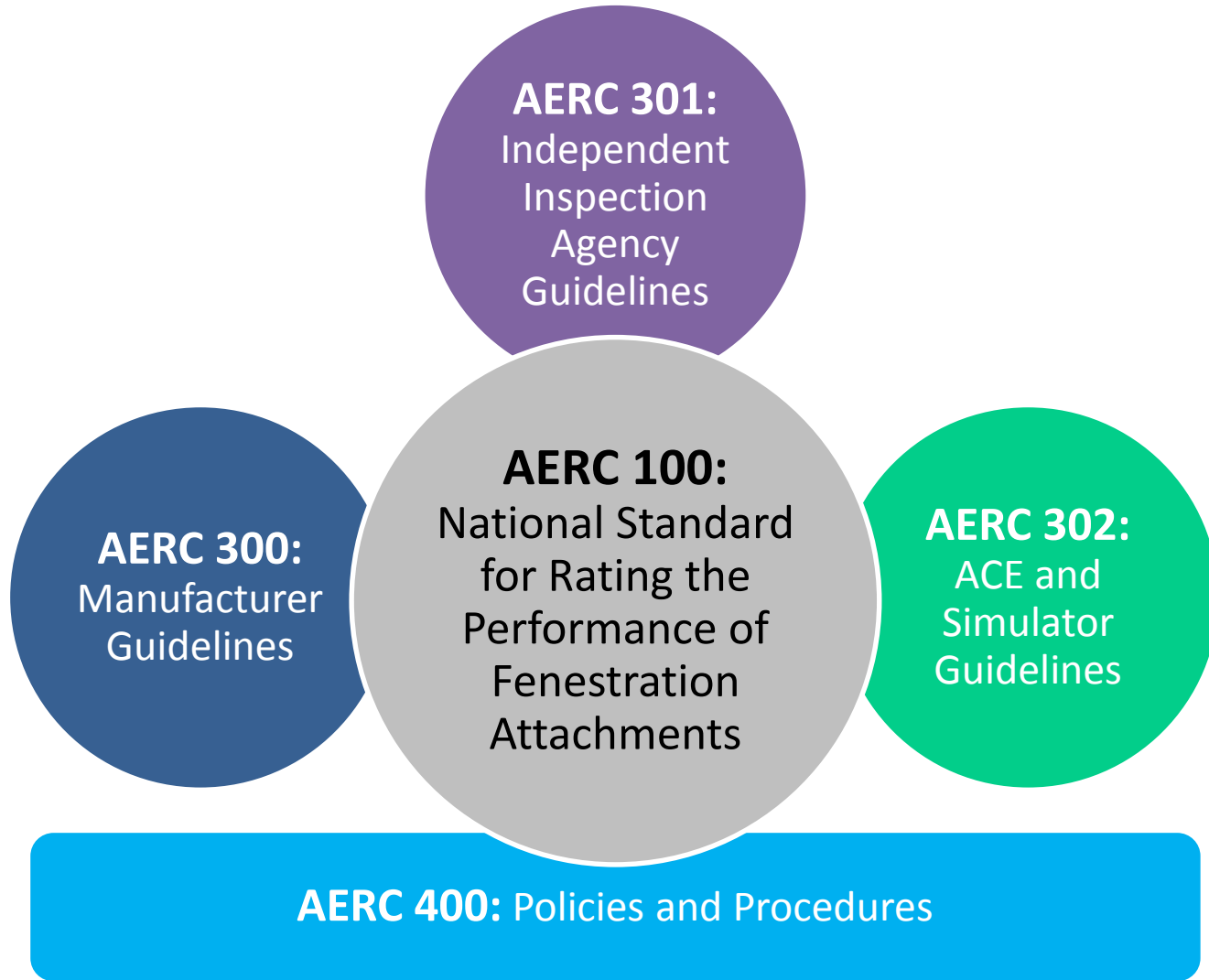
AERC 2: Procedures for Determining Heating and Cooling AEP Ratings of Fenestration Attachments

- Defines procedures for generating annual energy performance ratings (EP_H and EP_C) for fenestration attachments
- Rated for use in a model residential house through AERCalc software tool
- Defines EP values and meaning

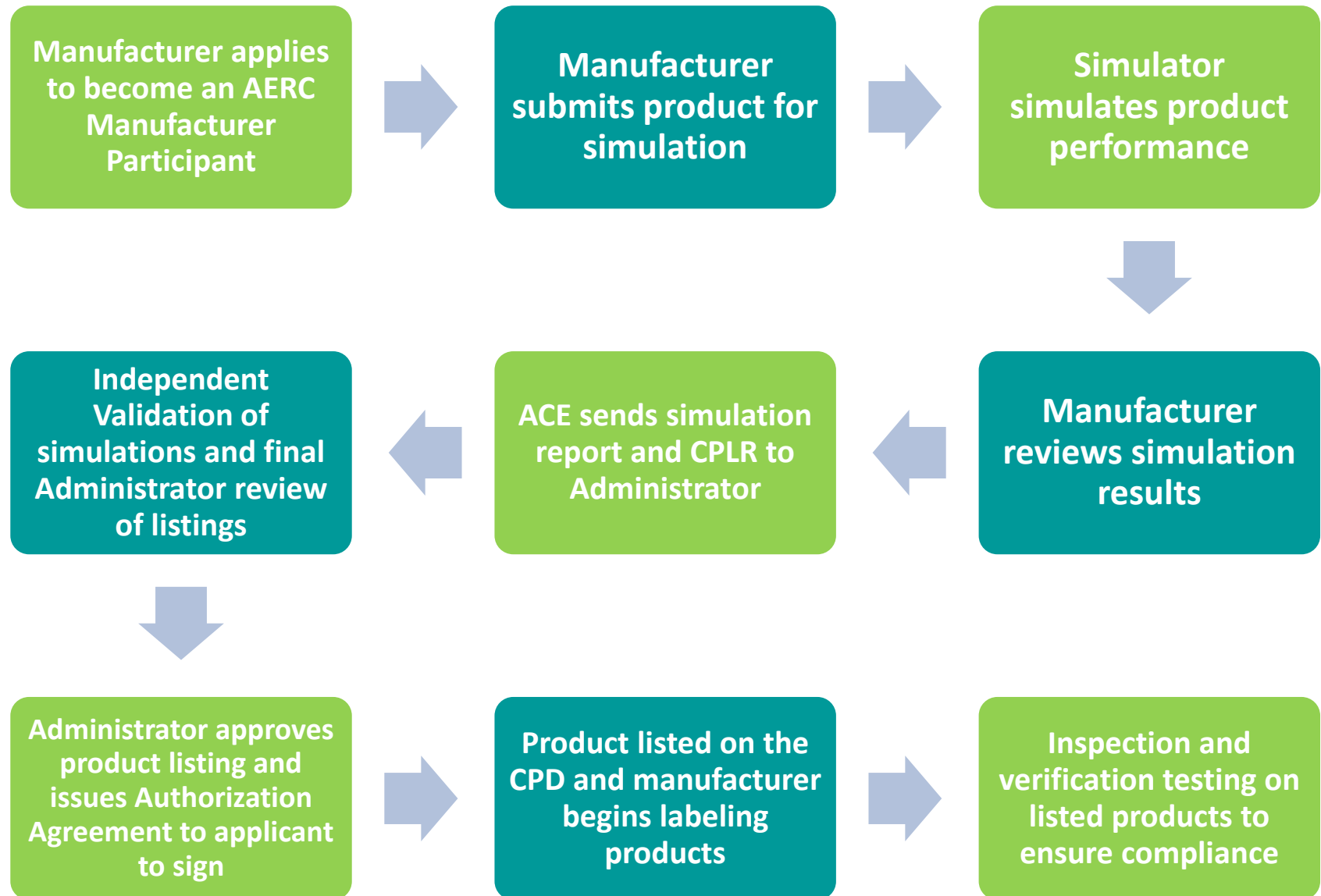
Certification Process

- This webinar is centered around the attachment product certification process
- Webinars on the following dates will cover the material/ CGDB process
 - Friday, September 8 at 2pm Eastern
 - Tuesday, September 12 at 3pm Eastern

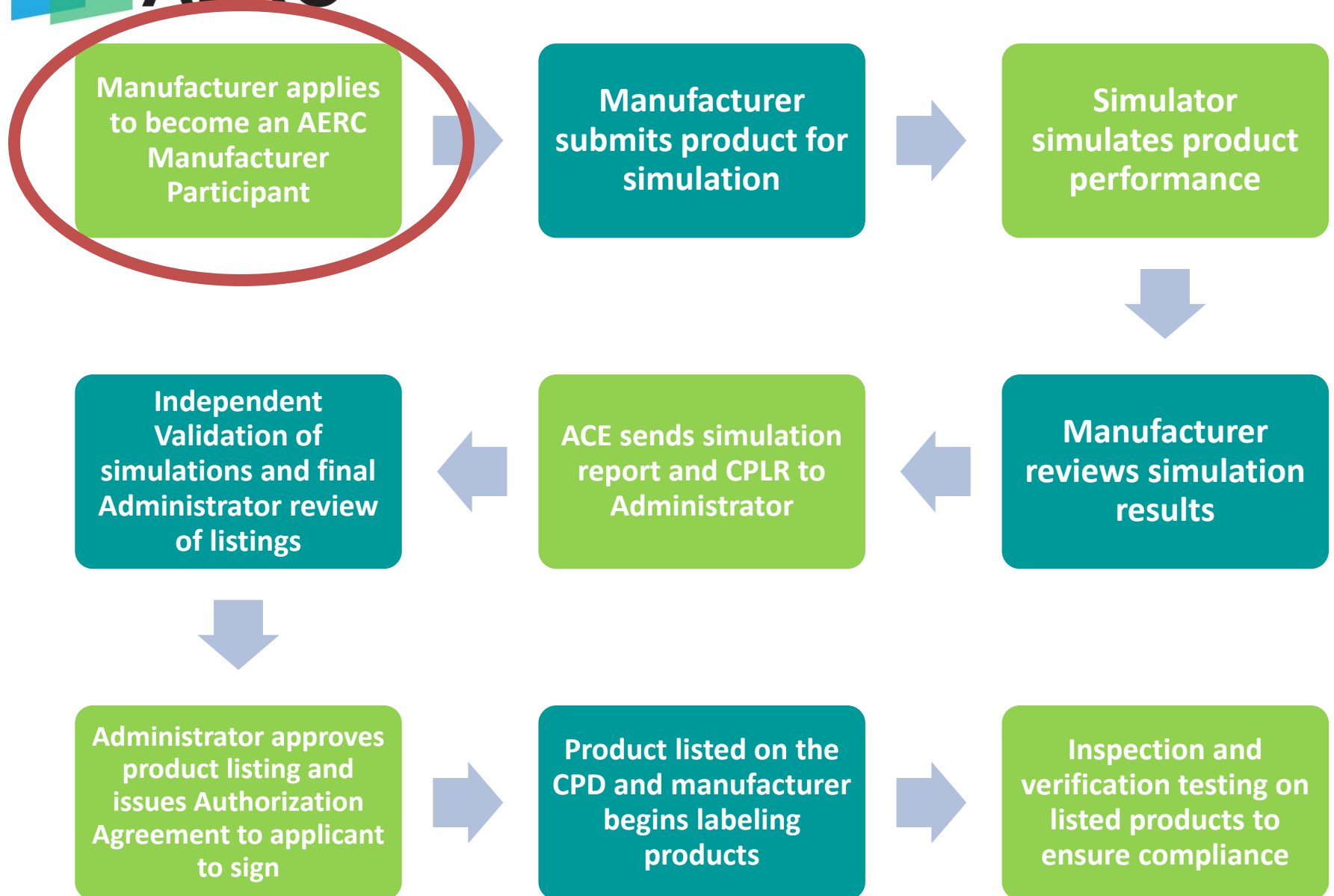
Certification Standards to Reference



Attachment Product Certification Process



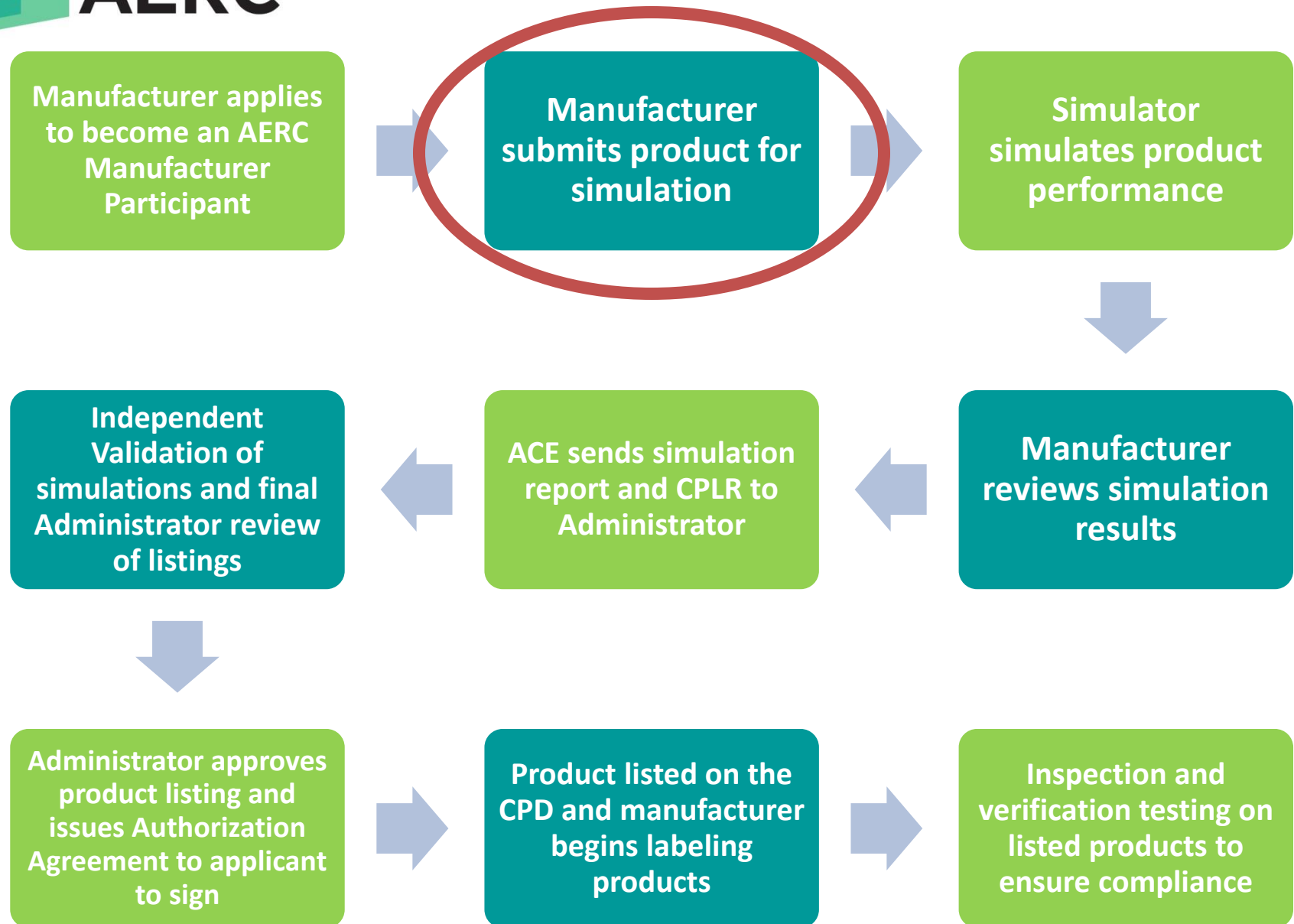
Attachment Product Certification Process



Apply to become a Manufacturer Participant

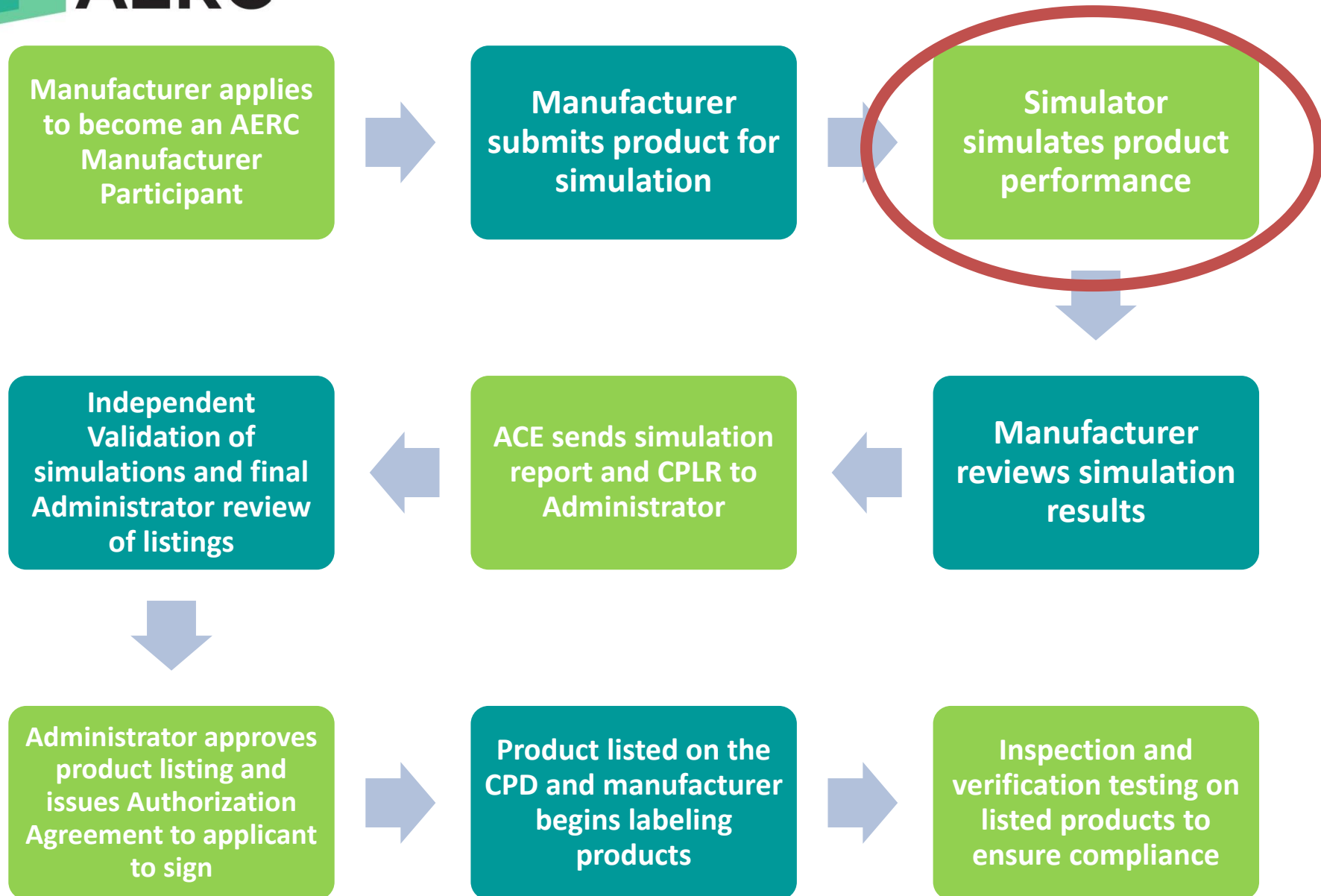
- Submit all appropriate forms and documentation
- More on application process later

Attachment Product Certification Process



- Establish a relationship with an AERC Accepted Calculation Entity
 - Agree on simulation services and pricing
- Provide Accepted Simulator with information about which products to simulate
 - Identify exact product configurations according to program definitions and requirements
 - Provide CGDB listing number for materials
 - Specify marketing language for CPD listing

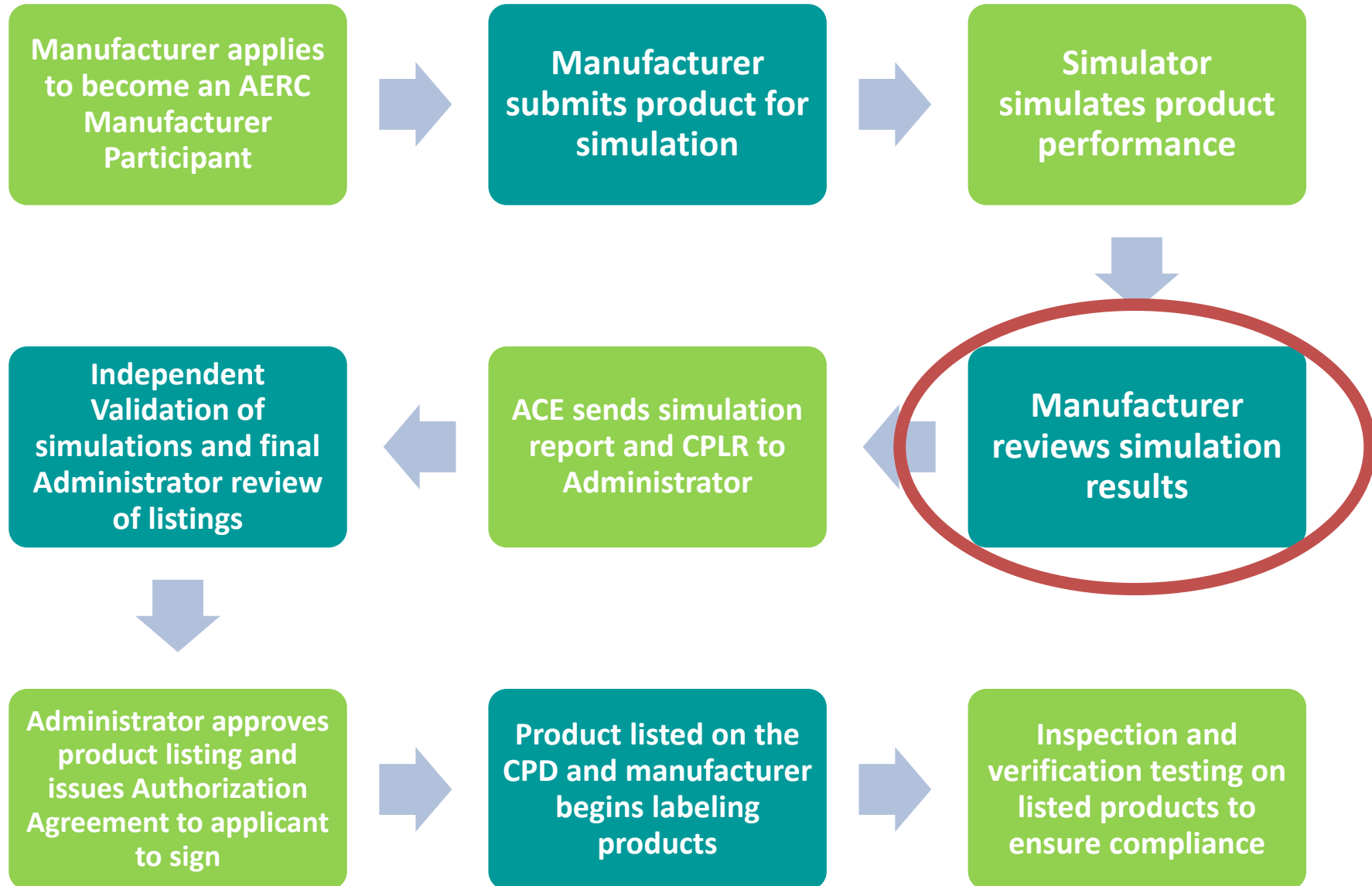
Attachment Product Certification Process



Simulator Performs Services

- Simulator uses product information to develop models using WINDOW and THERM and produce Annual Energy Performance ratings through AERCalc
- Involves specifying product geometry based on literature or drawings supplied to the Simulator

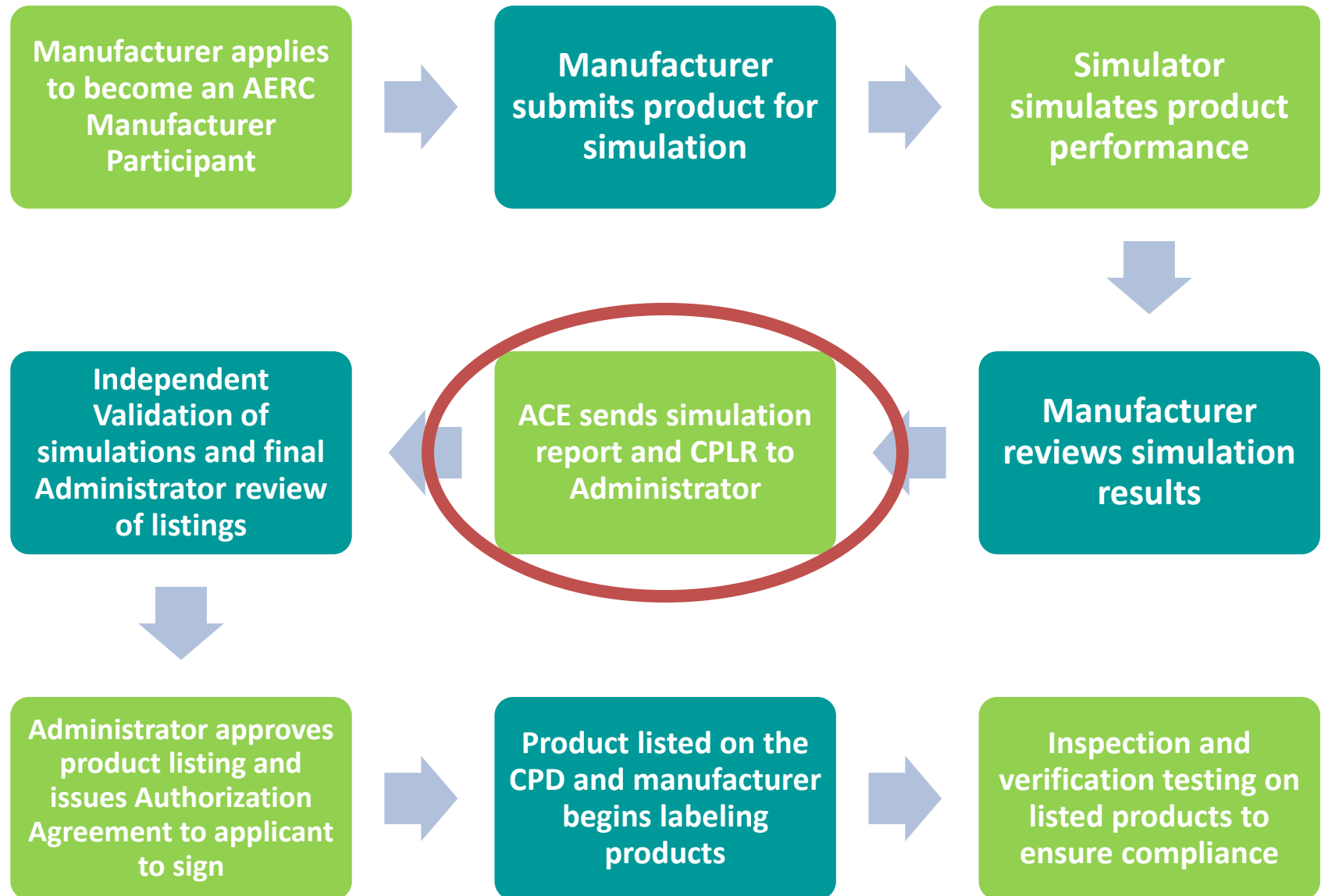
Attachment Product Certification Process



- Simulator provides manufacturer with results of simulations
- Manufacturer reviews, confirms results, and instructs simulator to submit products for listing in the AERC CPD
 - Work with simulator to provide any additional information (e.g. marketing description)

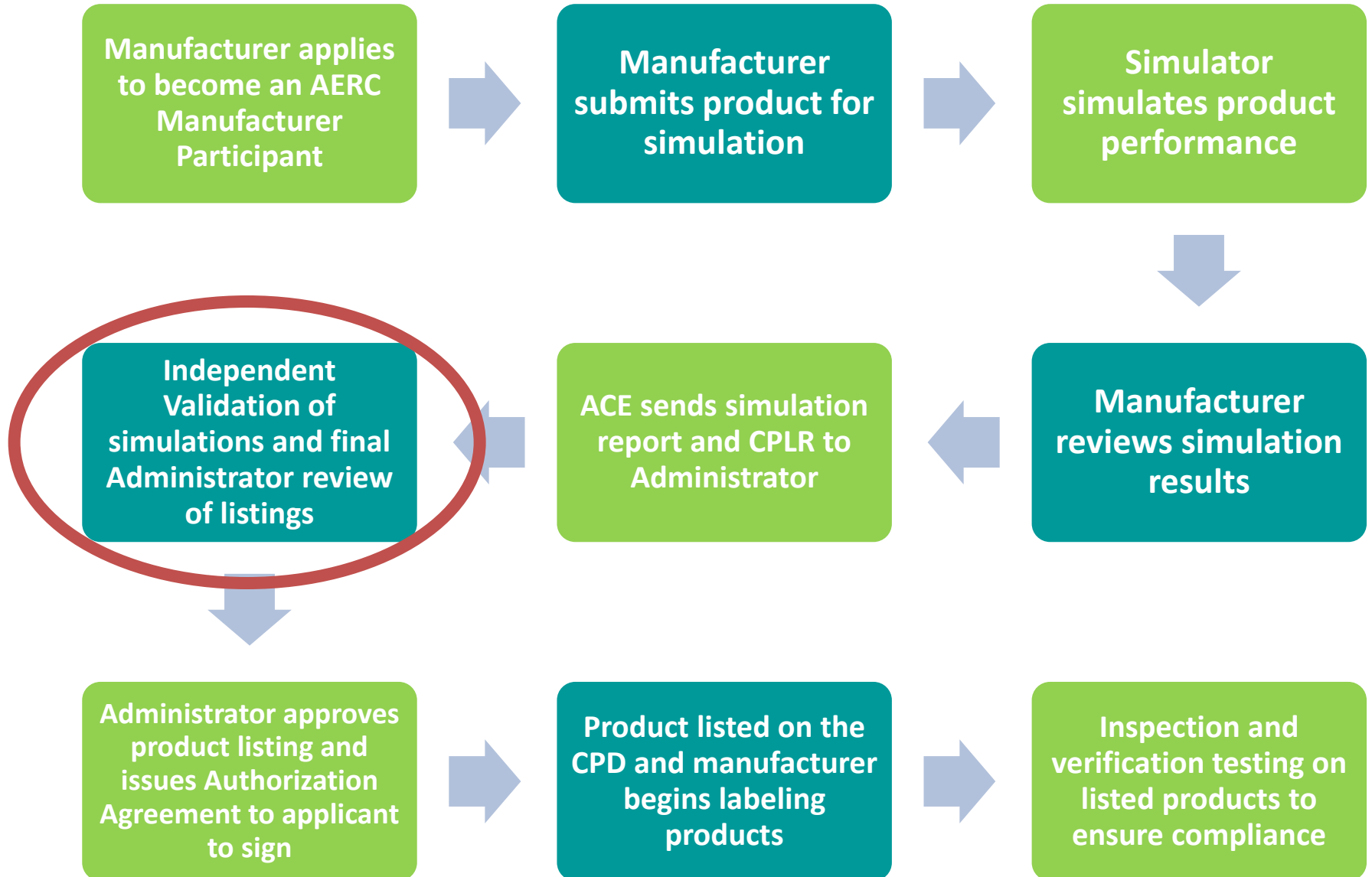
- Product name
- Model number
- Color
- Description
- CGDB ID
- Position (Interior or Exterior)
- Performance Properties/ Ratings
 - VT, U-factor, SHGC, EP, etc.

Attachment Product Certification Process



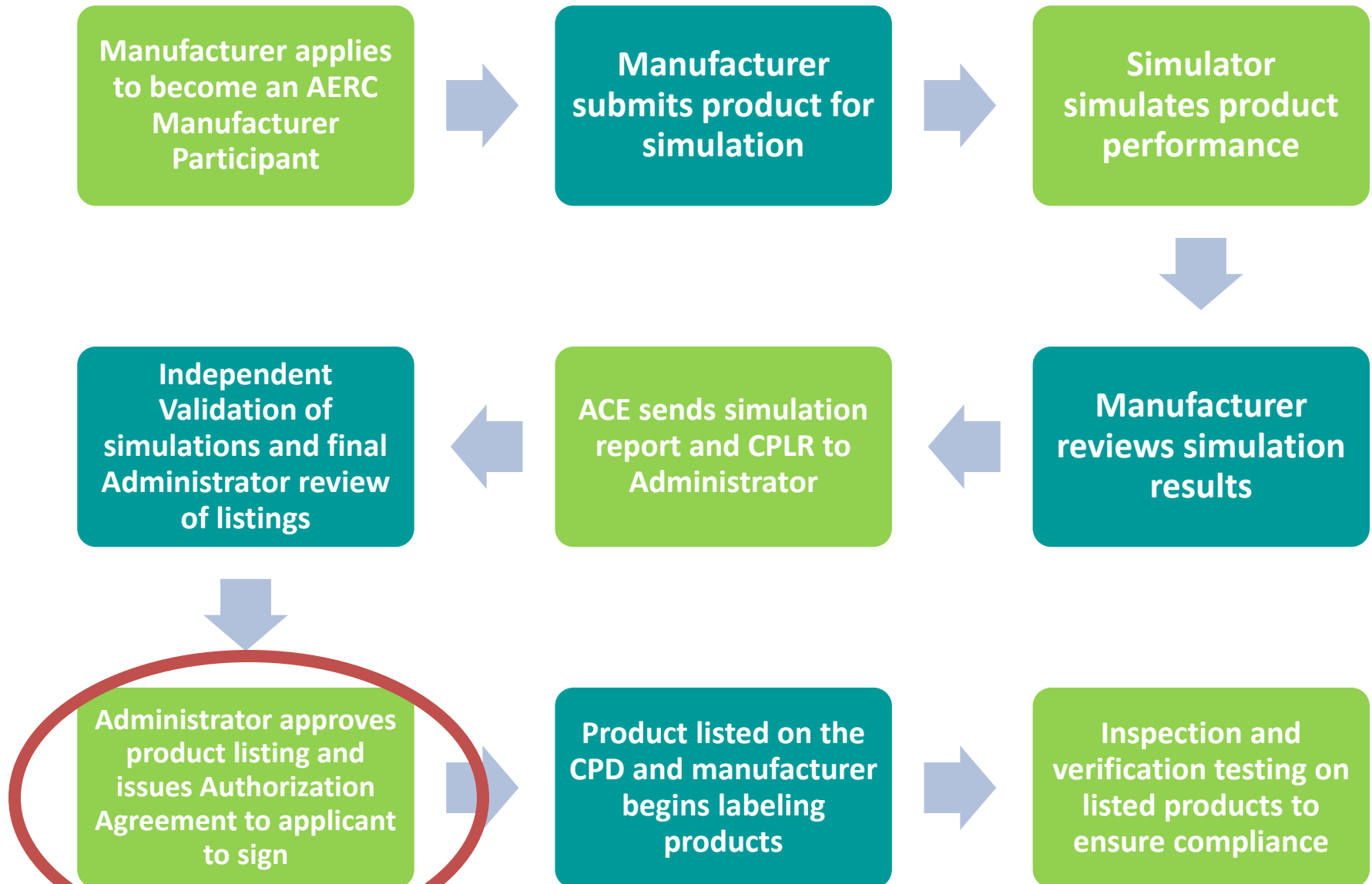
- Manufacturer waits for AERC submission and review process

Attachment Product Certification Process



- Independent Validator performs validation of simulations
 - Reviews and re-constructs a portion of the products submitted to validate simulation results
 - Bills manufacturer for services
 - Estimated 20% of simulation service cost
- Problems in validation
 - Simulator is responsible for resolving, but may need manufacturer's assistance

Attachment Product Certification Process

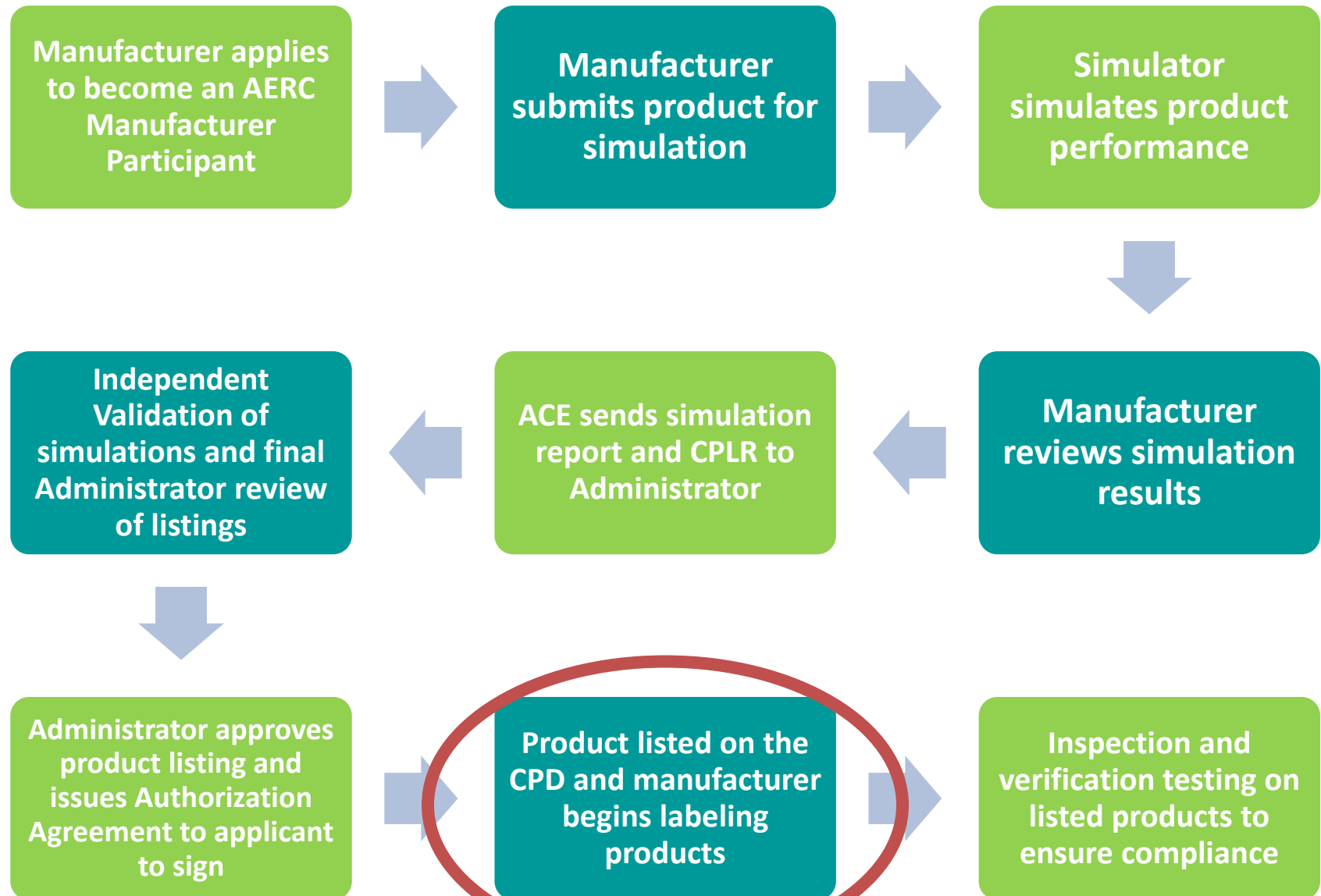


Administrator Approval

- Products approved for listing in the CPD
- Administrator issues Authorization Agreement to manufacturer to sign
 - There is an Authorization Agreement that governs a manufacturer's participation
 - Once a CPLR is accepted, the Authorization Agreement is amended to include accepted products that can be listed and labeled
 - Not active until the manufacturer signs and the Administrator countersigns

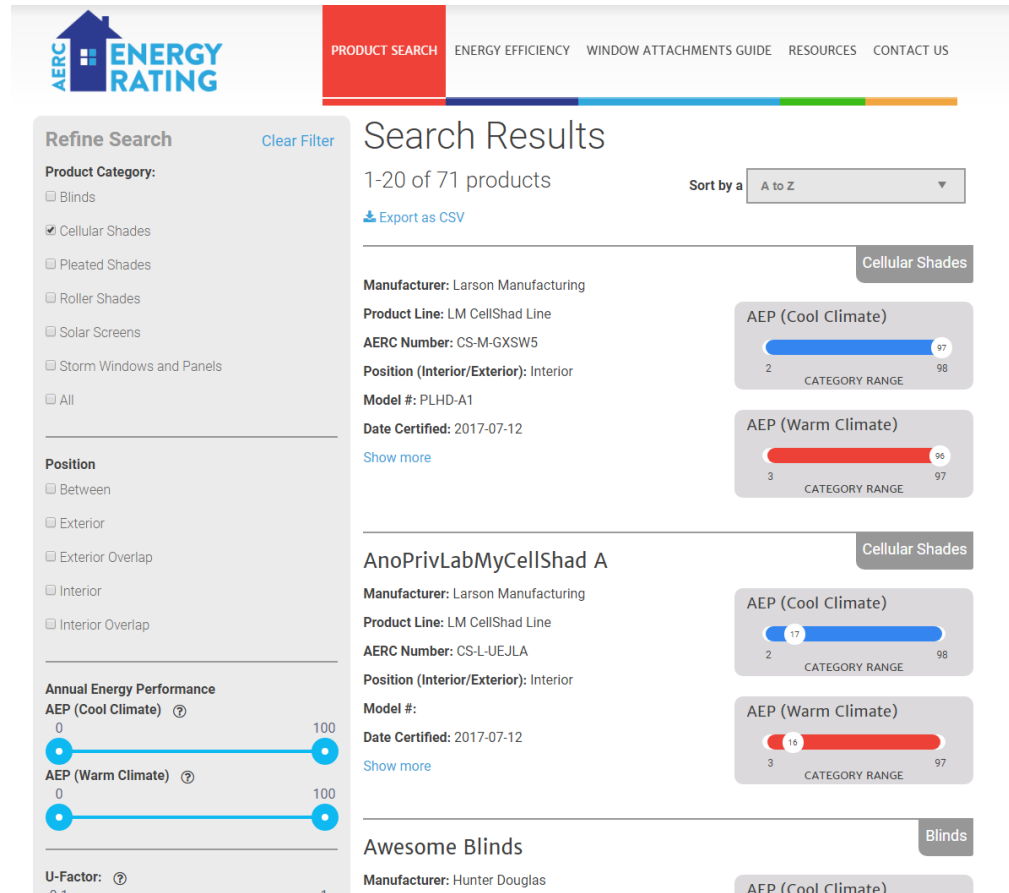
- Certified Products are accepted for **four years**
 - May be accepted for an additional four-year term
 - Requires affirmation from manufacturer that products have not changed
 - Subject to changes in software tools and program requirements

Attachment Product Certification Process



Product Listed and Labeled

- Products approved in the CPD by the Administrator and publicly displayed on the Certified Products Website (CPW)
- Manufacturer is authorized to label their products according to the AERC Label & Logo Requirements for Use



The screenshot shows the AERC Energy Rating website's product search interface. The header includes the AERC logo and navigation links: PRODUCT SEARCH, ENERGY EFFICIENCY, WINDOW ATTACHMENTS GUIDE, RESOURCES, and CONTACT US. The main content area is titled 'Search Results' and displays '1-20 of 71 products'. A 'Sort by a' dropdown menu is set to 'A to Z', and there is an 'Export as CSV' link. The search results are filtered by 'Cellular Shades'.

Refine Search (Clear Filter)

Product Category:

- Blinds
- Cellular Shades
- Pleated Shades
- Roller Shades
- Solar Screens
- Storm Windows and Panels
- All

Position

- Between
- Exterior
- Exterior Overlap
- Interior
- Interior Overlap

Annual Energy Performance

AEP (Cool Climate) [?]

0 100

AEP (Warm Climate) [?]

0 100

U-Factor: [?]

0 1

Search Results

1-20 of 71 products Sort by a

[Export as CSV](#)

Cellular Shades

Manufacturer: Larson Manufacturing
Product Line: LM CellShad Line
AERC Number: CS-M-GXSW5
Position (Interior/Exterior): Interior
Model #: PLHD-A1
Date Certified: 2017-07-12
[Show more](#)

AEP (Cool Climate)

2 CATEGORY RANGE 97

AEP (Warm Climate)

3 CATEGORY RANGE 97

Cellular Shades

AnoPrivLabMyCellShad A

Manufacturer: Larson Manufacturing
Product Line: LM CellShad Line
AERC Number: CS-L-UEJLA
Position (Interior/Exterior): Interior
Model #:
Date Certified: 2017-07-12
[Show more](#)

AEP (Cool Climate)

2 CATEGORY RANGE 98

AEP (Warm Climate)

3 CATEGORY RANGE 97

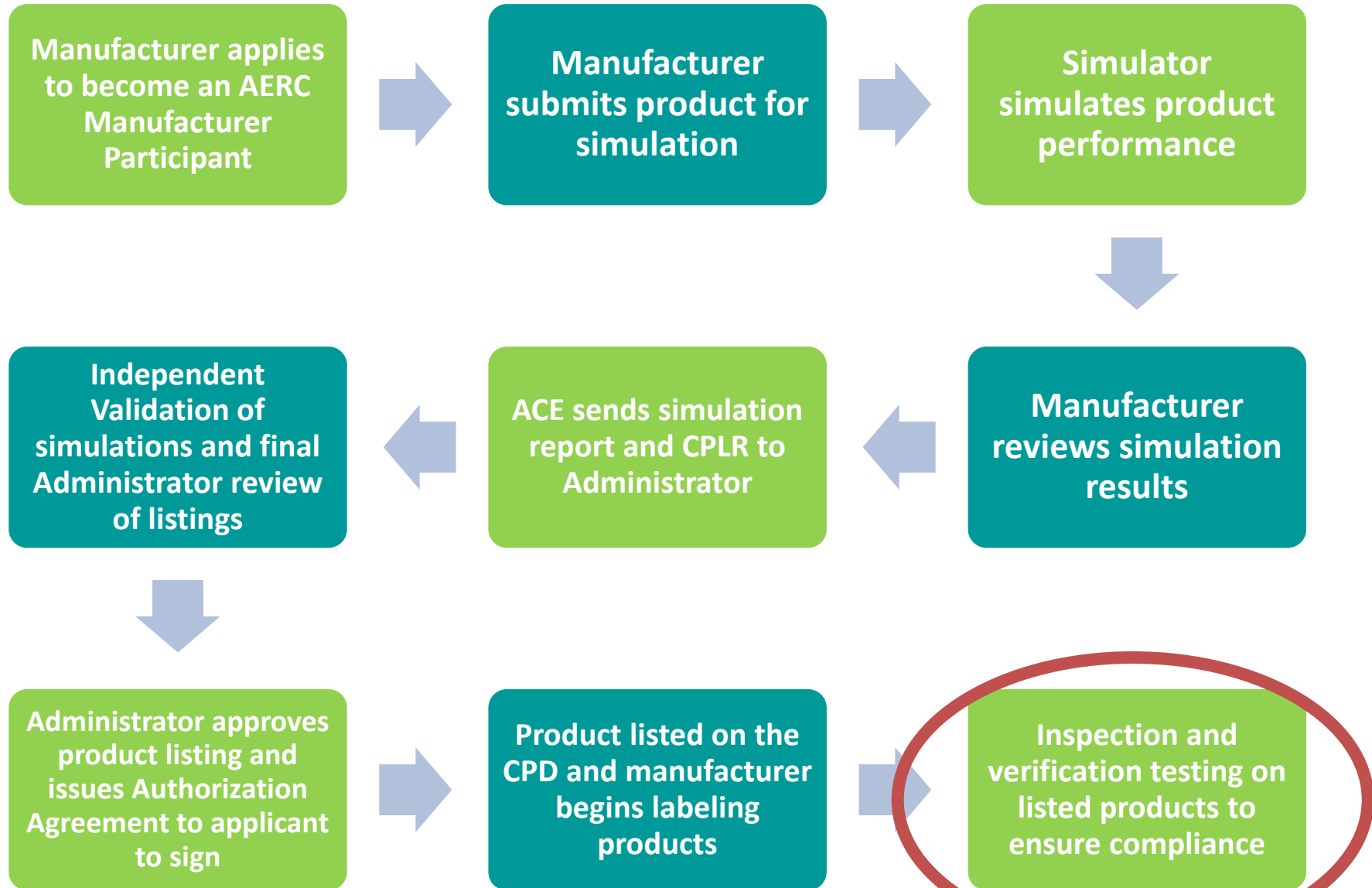
Blinds

Awesome Blinds

Manufacturer: Hunter Douglas

AEP (Cool Climate)

Attachment Product Certification Process

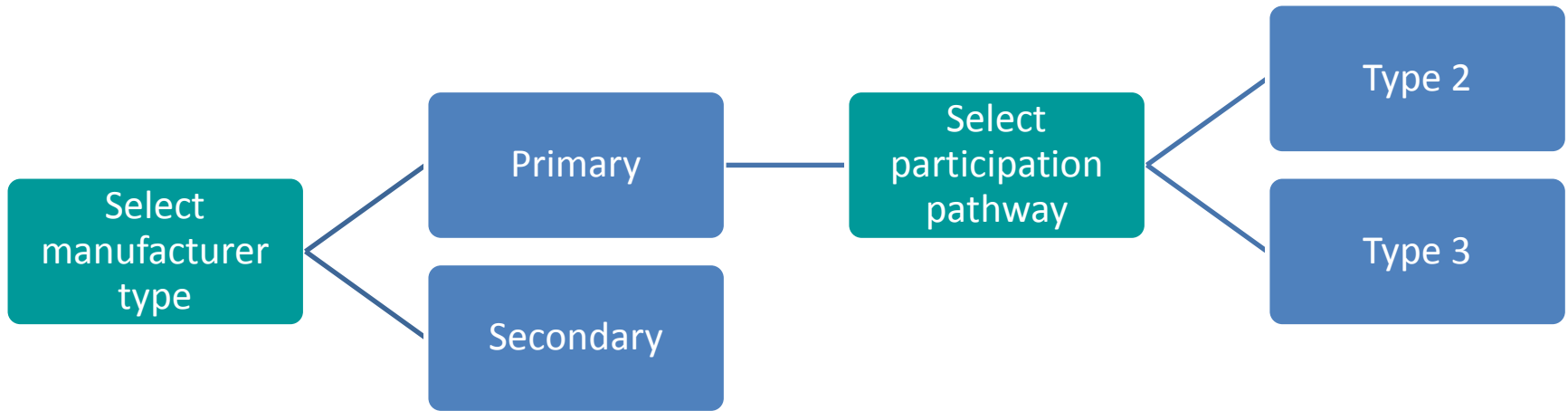


Inspection/ Verification Testing

- Based on participation path chosen upon manufacturer application and acceptance
 - Secondary Manufacturers not subject to either in plant inspections or Quality Assurance requirements or the requirement to enroll all locations participating.
 - Responsibility for the verification testing falls on the holder of the Primary Listing.
 - Verification samples may be procured from Secondary Manufacturer locations.

Manufacturer Enrollment Process

Pre-Application Decision Tree

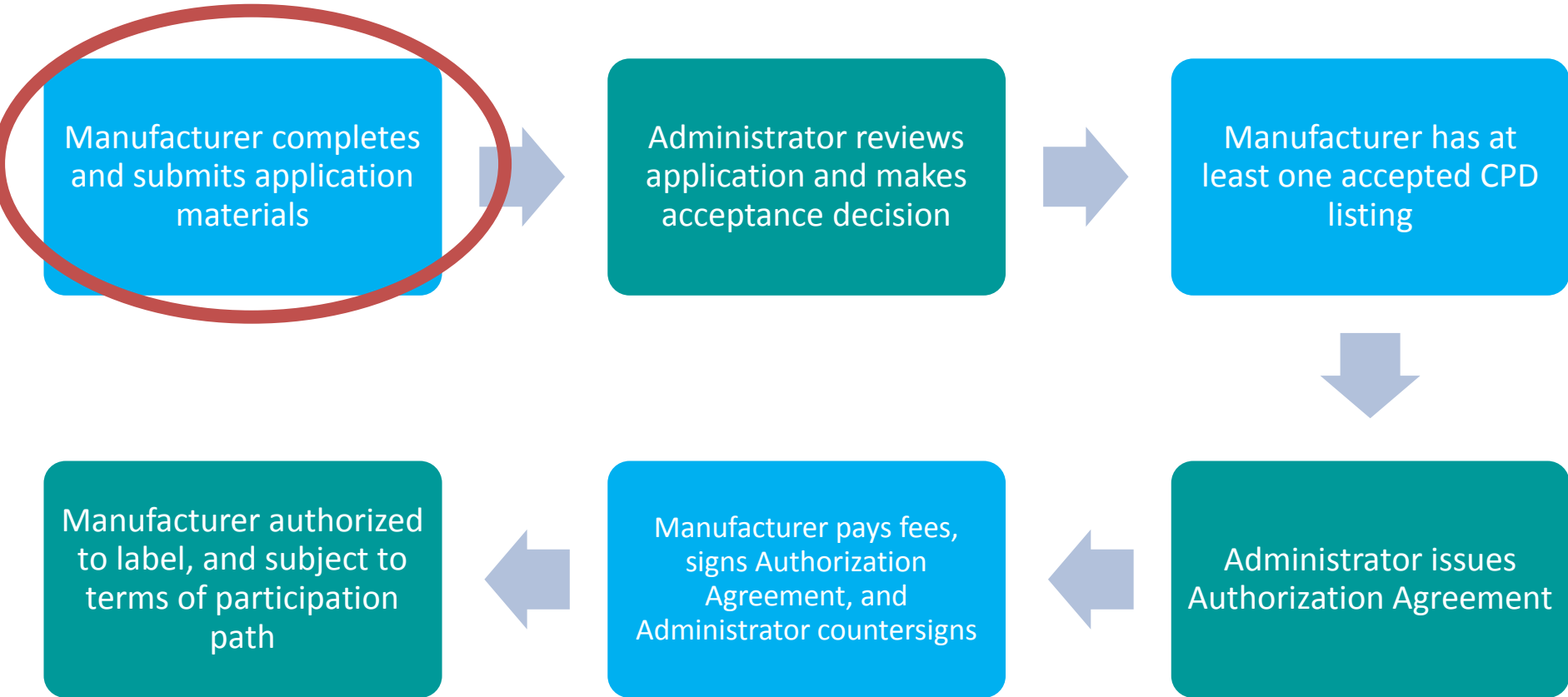


Primary v. Secondary Manufacturer

- A Primary Manufacturer will:
 - Own the product design based on its own designs and manufacturing processes; or have the proper licensing of the designs of another; or its products exist within the public domain.
 - Manufacture or assemble products at its own locations
- A Secondary Manufacturer will:
 - Establish a formal agreement with a Primary Manufacturer to brand their products under its name
 - Not manufacture or assemble products at its own locations. Purchase finished products from Primary for resale under their name

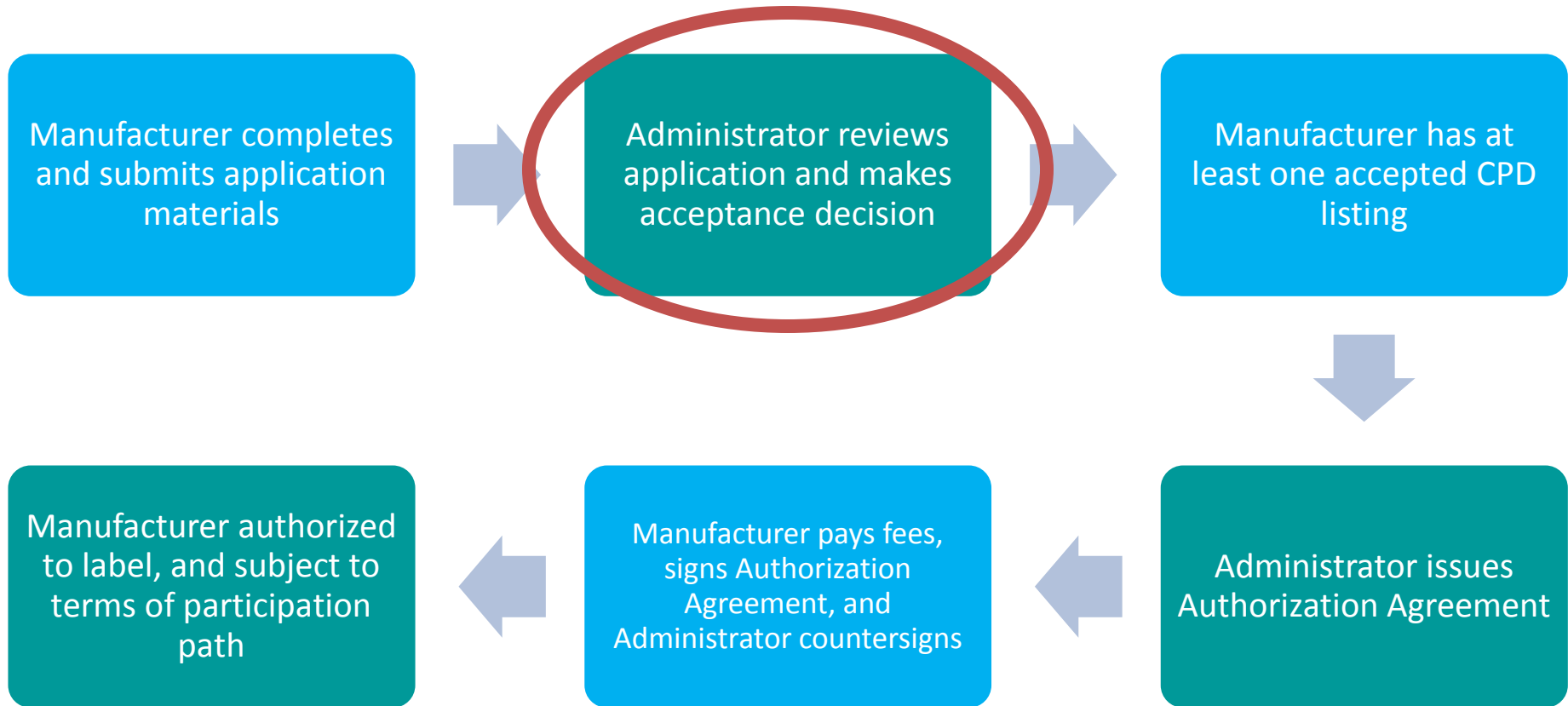
- Type 2: Verification Testing
 - Products acquired on the open market or in accordance with manufacturer's supply chain
 - 2-8 samples tested twice per year (4-16 total)
- Type 3: In-plant Inspections
 - Manufacturing plants producing listed products are subject to inspections
 - Plants inspected annually
 - Inspections performed by Intertek or a different Independent Inspection Agency
 - If already using an inspection agency, will need to reach out to them for enrollment in AERC program

Manufacturer Enrollment Process



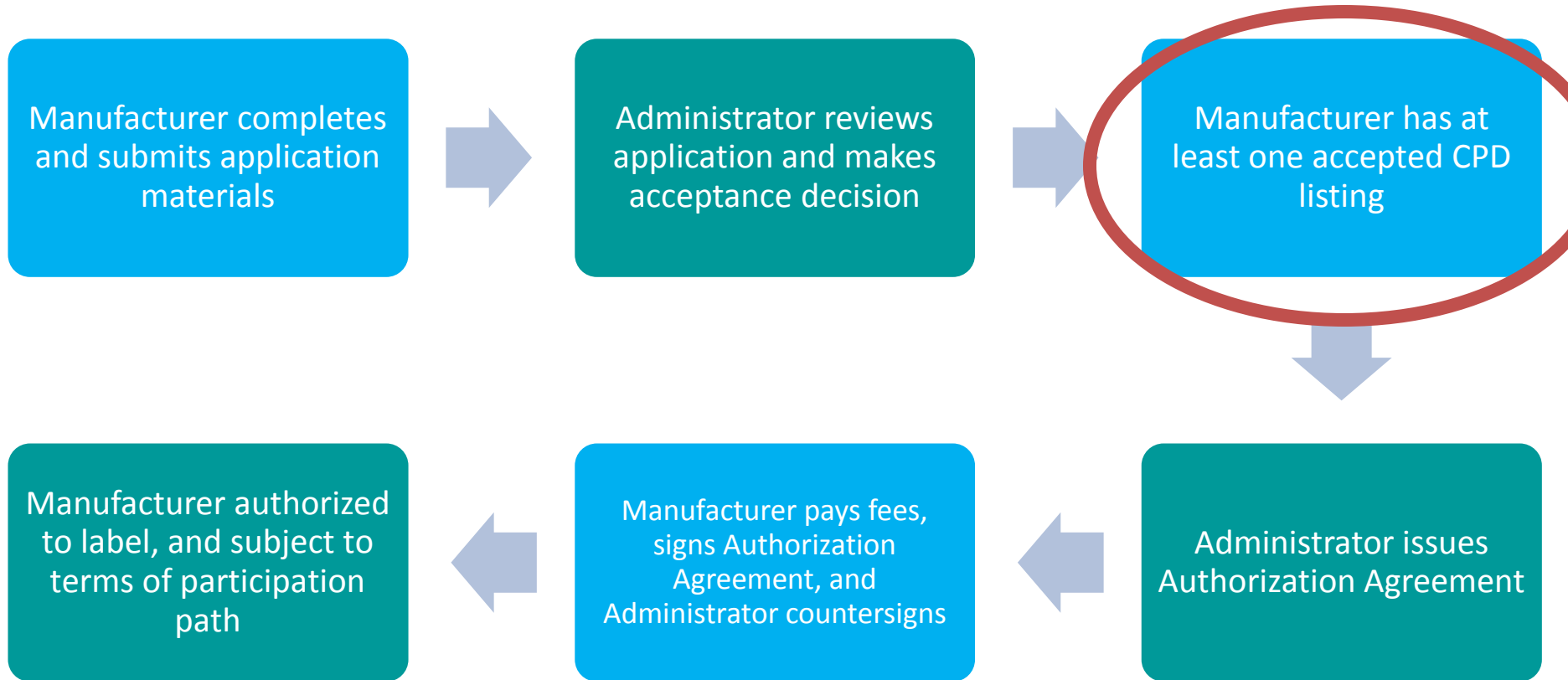
- Electronic web-based form
 - Link and instructions distributed via email after webinars completed

Manufacturer Enrollment Process

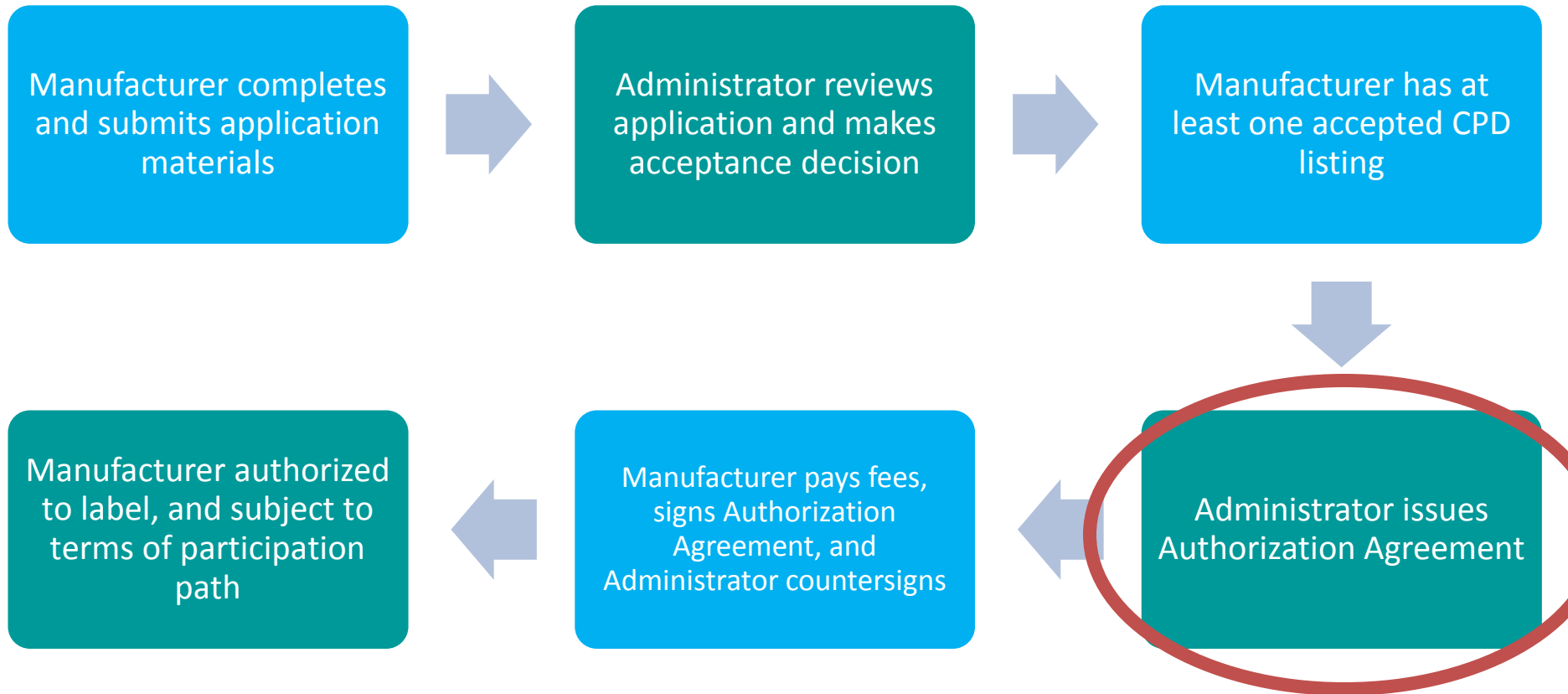


- Intertek will contact with any questions or requests for additional information
- Preliminary acceptance decision

Manufacturer Enrollment Process

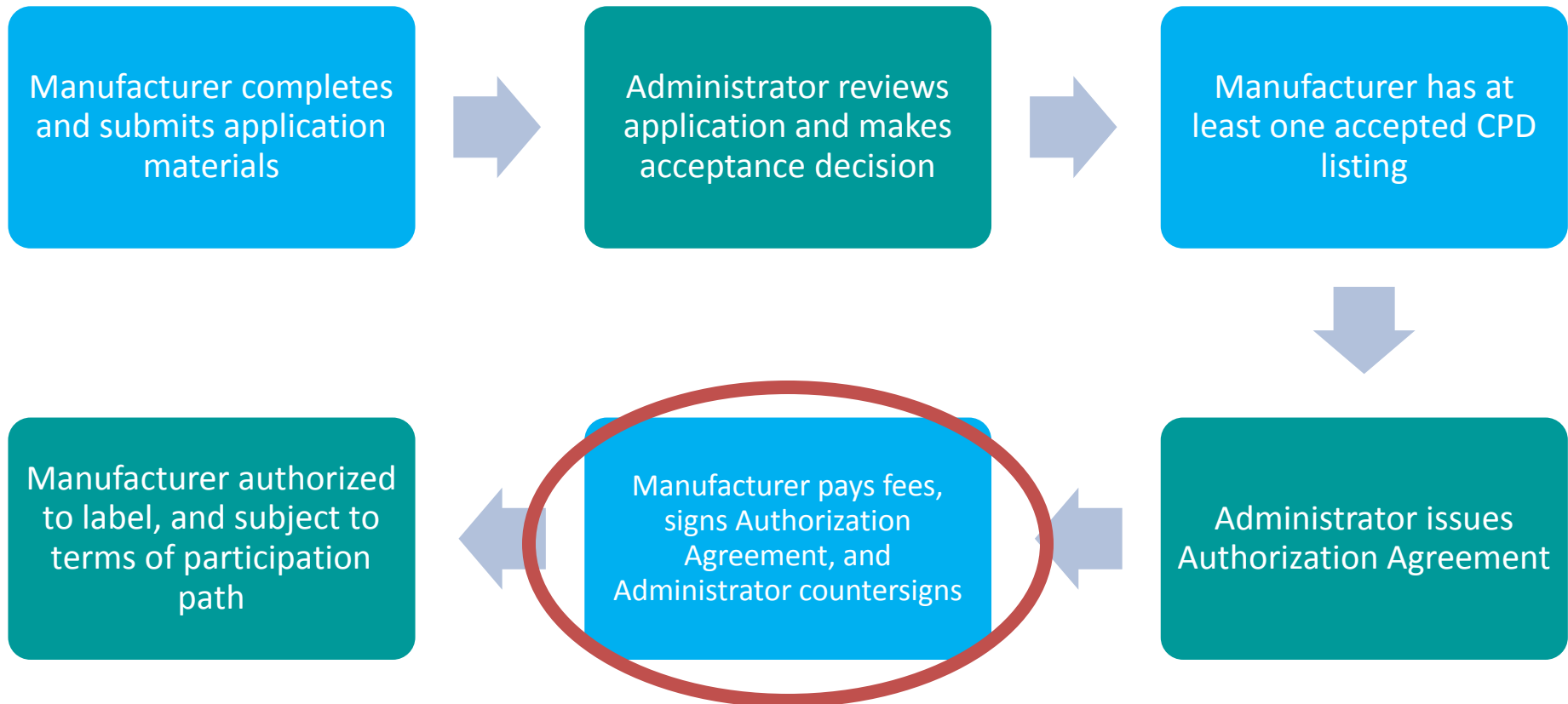


Manufacturer Enrollment Process



- Will list all requirements for participation in AERC program
 - Based on participant type
- Manufacturer Participant acceptance lasts for **four years** from the date of countersignature of the *Authorization Agreement*
 - Subject to annual renewals and compliance with all program documents

Manufacturer Enrollment Process



Fee Type	Member	Non-Member
Primary Manufacturer Participation Fees		
In-Plant Inspection (Type 3)		
Per-plant Fee	\$4,500	\$6,000
Per-sample Testing Fee	\$970	\$1,300
Verification Testing (Type 2)		
Participation Fee	\$4,300	\$5,500
Per-sample Testing Fee	\$970	\$1,300
Secondary Manufacturer Participation Fee	\$2,200	\$3,200

CPD Annual Listing Fees

Fee Type	Number of Listings	Member	Non-Member
Primary Listing Fee	1 - 75	\$170	\$260
	76 - 150	\$140	
	151+	\$110	
Secondary Listing Fee	1 - 75	\$70	\$130
	76 - 150	\$40	
	151+	\$30	
CPLR Revision		Intertek hourly rate (approximately \$125/hr)	

- To maintain acceptance under the program, *Manufacturer Participants* must:
 - Pay all required program fees
 - Comply with all labeling requirements
 - Comply with protecting the marks of the AERC
 - Submit to regular in-plant inspections if you choose Type 3 path
 - Implement an ISO 9001 QA program

- *A Manufacturer Participant* can be subject to suspension or revocation for violation of program requirements, such as:
 - Labeling violations
 - Non-payment of fees
 - Failure of verification testing if no resolution to correct the issue
 - Failure to resolve variances to compliance emerging from an in-plant inspection

Next Steps

- Short term: next 1-2 weeks
 - AERC staff will follow up with link to online manufacturer application form
 - Submit application and other requested materials to Intertek
 - Ensure your material supplier attends a Material Manufacturer Webinar on 9/8 or 9/12
- Mid-term: next 1-2 months
 - AERC staff will announce ACEs
 - Contact ACE to discuss simulation submissions

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Thank you!

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