



SMALL WIND
CERTIFICATION
COUNCIL™

PRELIMINARY REVIEWS: SWCC's First Step in Turbine Certification

NREL CIP Workshop

29 November 2023

What is involved with certification?



Application and Evaluation Stage

Third-party assessment of product compliance with a prescribed standard addressing minimum requirements for life, health, safety, and durability.

Determine consistent performance ratings under standardized conditions.



Field Monitoring Stage

Monitor and assess the function and performance of several field-installed turbines.



Monitoring and Maintenance

Periodic Quality Management System evaluation (inspections)

Design/production change management and assessment

Complaint/field failure monitoring.

Current ICC-SWCC Certification Programs

SMALL WIND TURBINES: ACP 101-1, < 150 kW peak power

- Safety & Function
- Power Performance
- Acoustic Performance
- Structural Design and Load Evaluation

65-150 kW

30-65 kW

1-30 kW

< 1 kW (Micro)

MEDIUM WIND TURBINES: IEC 61400, 150 – 300 kW peak power

- IEC 61400-12-1 for Power Performance
- IEC 61400-11 for Acoustic Performance
- IEC 61400-1 for Design

SWCC Small & Medium Wind Certification Program Scope

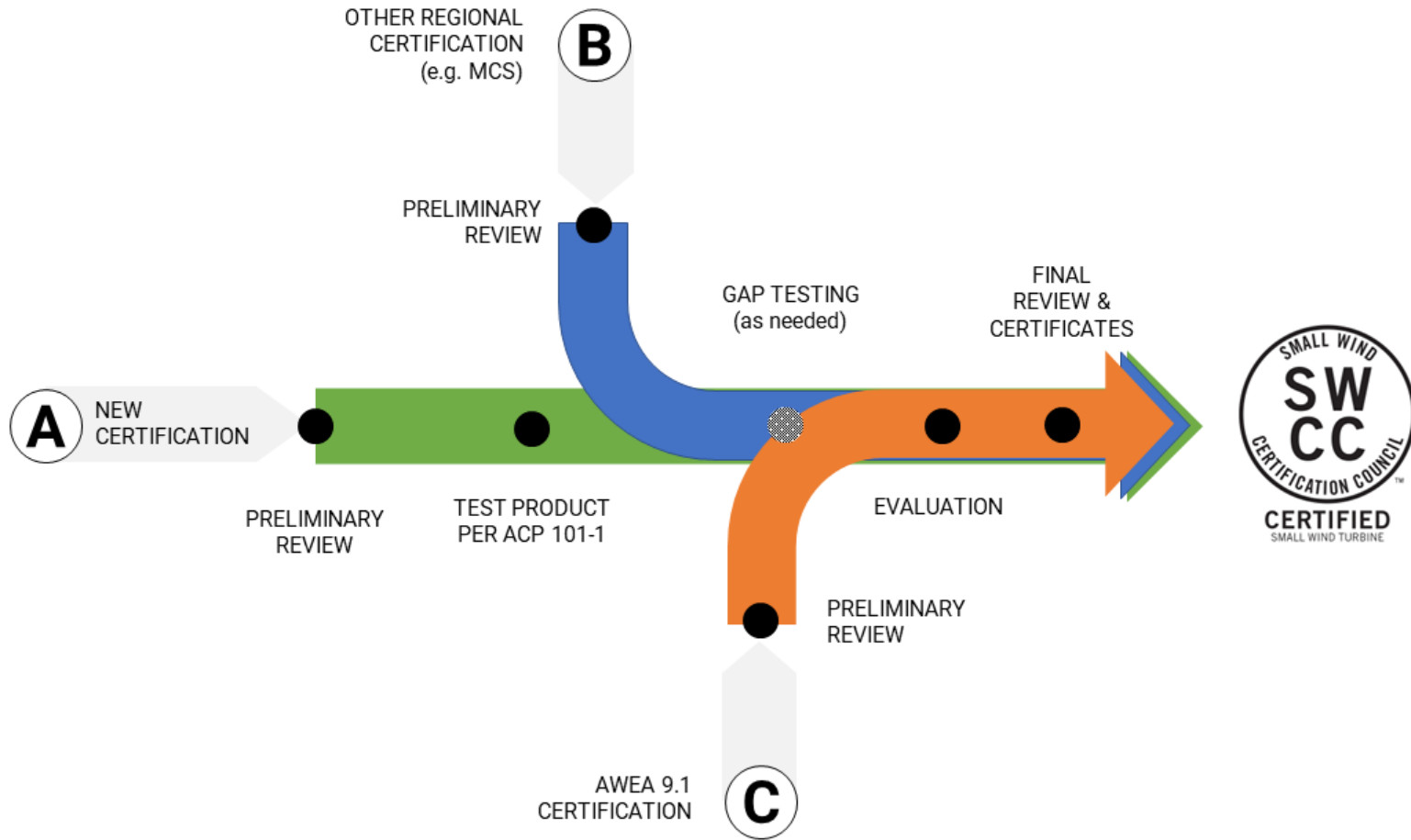
What's in scope?

- Turbine
 - Blades
 - Shafts
 - Gearboxes
 - Bearings
 - Tower mounts
 - Braking mechanisms
 - Speed control
 - Yaw control
 - Generators (for power production, durability)
 - Inverters (for power production, durability)

What's out of scope?

- Towers
 - Foundations
 - Tilt-up devices/mechanisms
- Electrical listings/safety
 - Generator
 - Inverter/power conditioner
 - Controls

Pathways to SWT Certification



Purpose of Preliminary Reviews

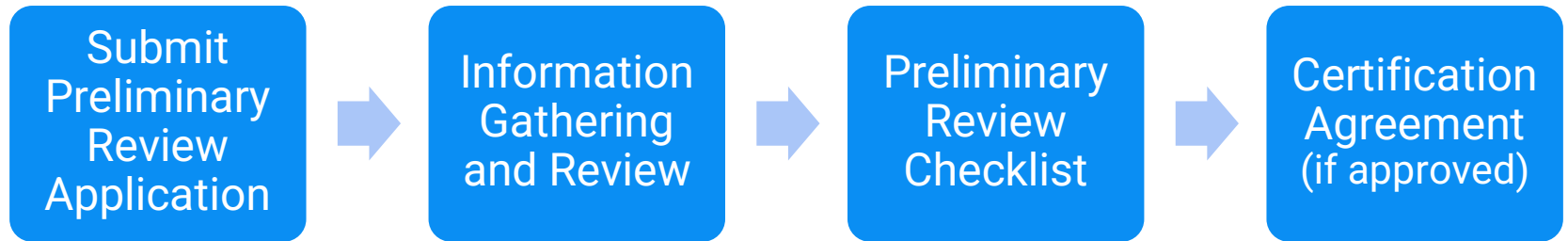
- Confirm eligibility for SWCC certification
- Evaluate any existing tests and analyses for applicability
- Establish scope and identify required tests and analyses
- Vet testing organization, site and general test plan
- Provide a quote for certification services



WHY?

- Clarifies submittals and requirements for specific turbine
- Reduces potential for unnecessary, misdirected, unusable testing
- Educates applicant on certification process, procedures, maintenance
- Supports applications for assistance programs such as CIP
- Allows applicants to establish and manage budgets for certification

Preliminary Review Steps



- Initiated upon submission of the *Preliminary Review Application Form* available on SWCC website.
- Reviews conducted by SWCC Certification Commission and staff
- SWCC charges \$3,000 USD per preliminary review, \$1500 per additional, similar turbine submitted at the same time.
- Time required varies widely from a few weeks to several months depending on information availability.

NREL Support for Preliminary Reviews

- NREL subcontract through DOE CIP now funds SWCC Preliminary Reviews
 - Available 12/2022 - 11/2024
 - Covers entire cost of preliminary reviews for qualifying applicants
 - Applies to both small and medium sized turbines
- Completed Preliminary Review Checklist is provided to NREL to document the outcome
- Review process is otherwise unchanged.



<https://www.nrel.gov/news/program/2023/nrel-removes-initial-barrier-to-distributed-wind-turbine-certification.html>



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