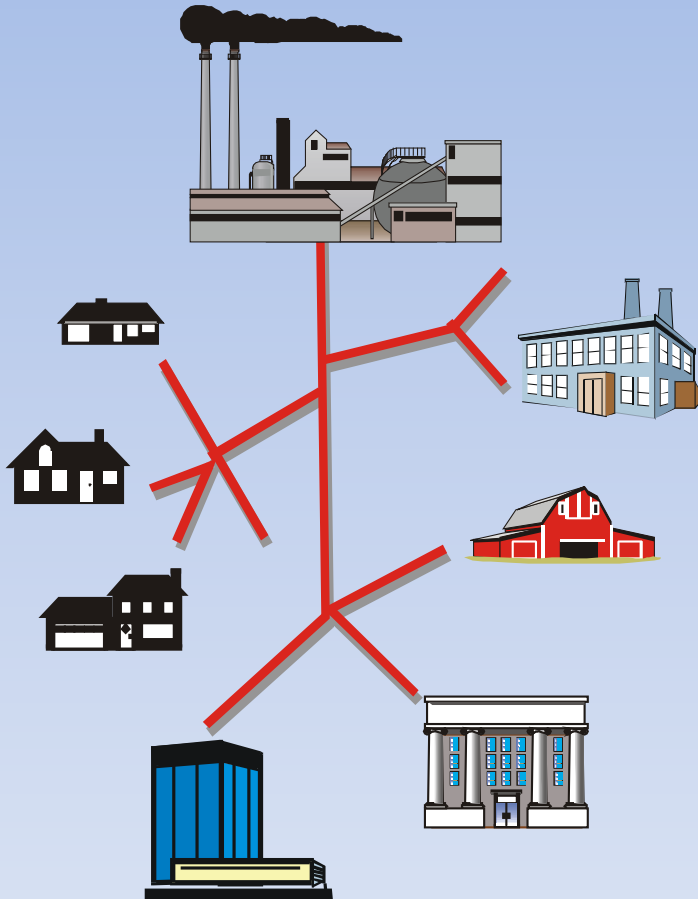
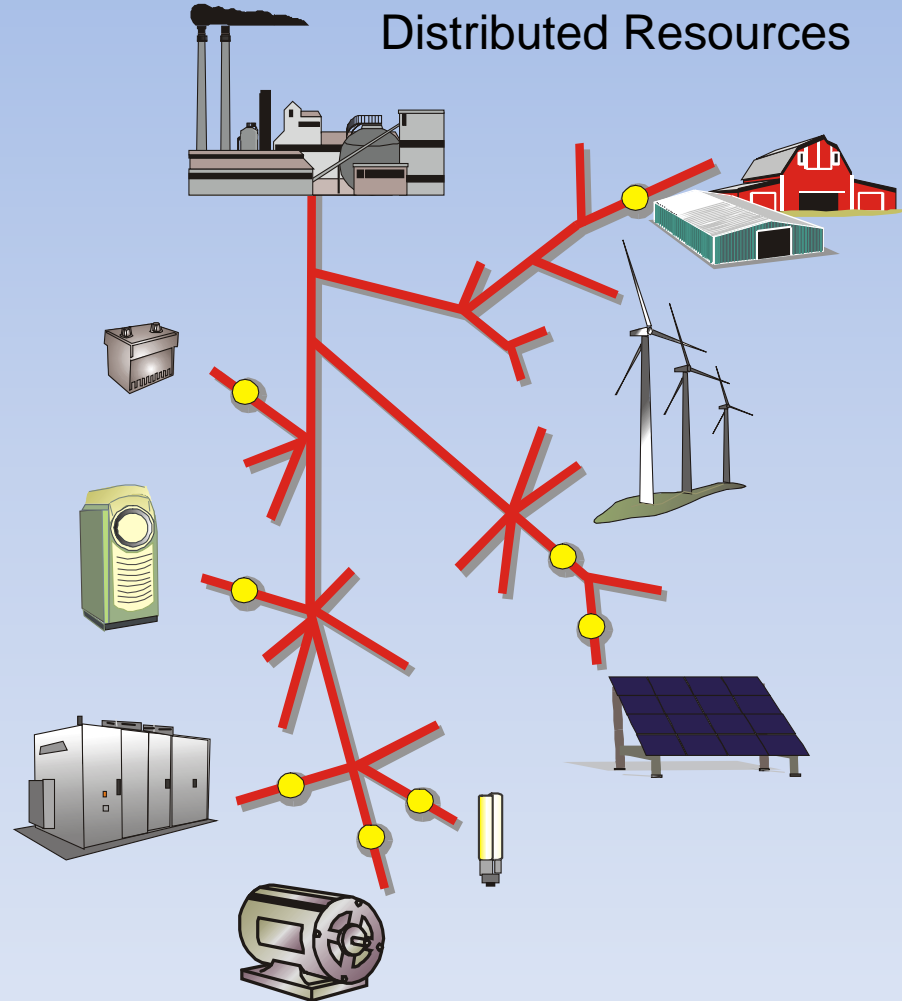


# History of PSC 119

Central Generation



Central Generation with Distributed Resources

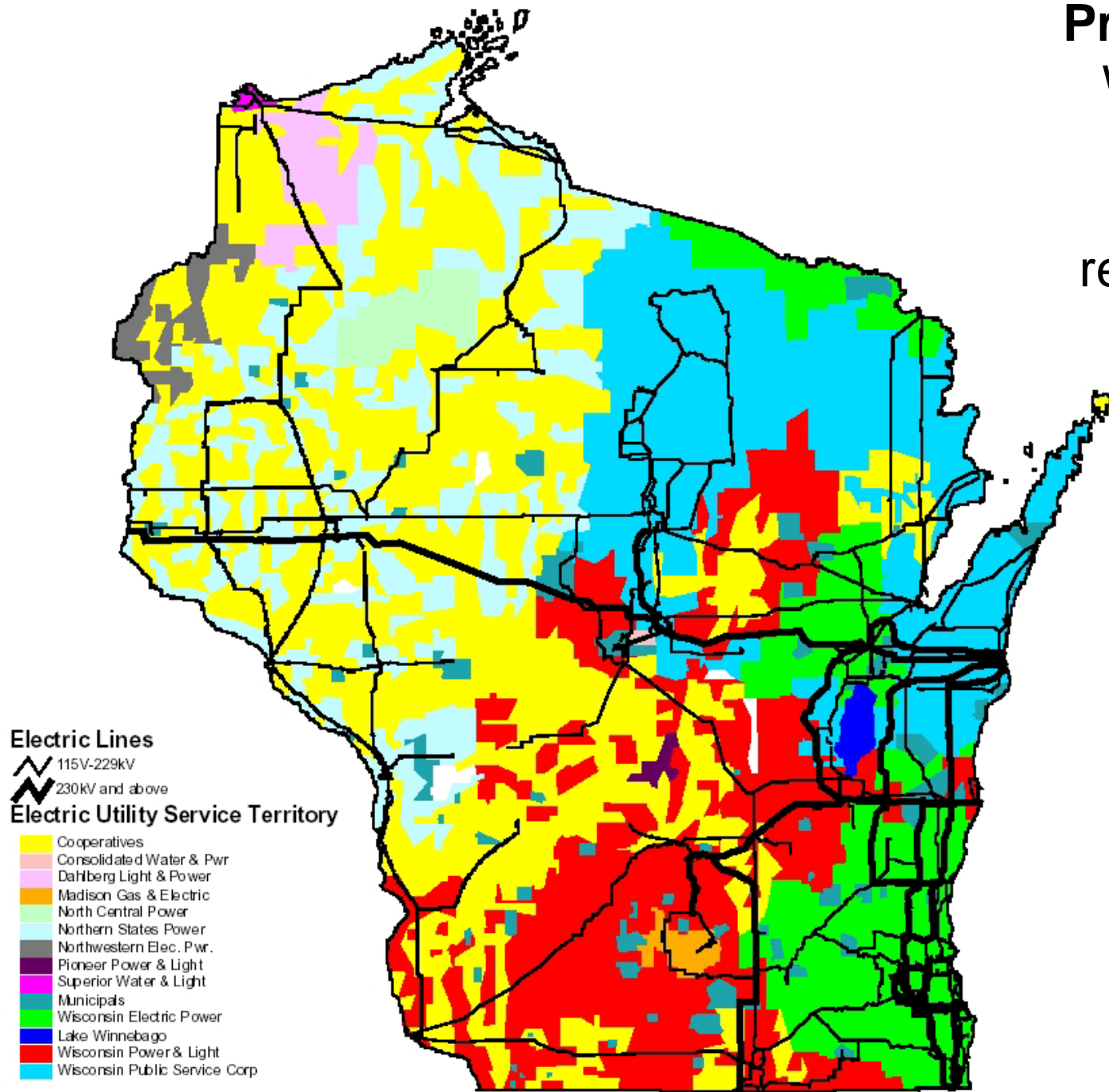


Larry Krom

Wisconsin Distributed Resources Collaborative

[WisconsinDR.org](http://WisconsinDR.org)

**Prior to PSC 119:**  
Wisconsin had a patchwork of interconnection requirements that differed in each utility service territory.



## Prior to PSC 119 - Outdated Interconnection Rules

“Requirements for Utility Rules for Interconnection of Small Customer-Owned Generation Facilities with the Utility System”,

*Wis. Admin. Code § 113.0207,*

... had been in effect since October 1, 1982  
and did not address current needs.

## Vagueness in Process and Requirements

- Unclear who to contact about DG at electric providers
- Each electric provider had their own application forms and agreements
- Each electric provider selected which technical standards were to be followed

# Prior to PSC 119

## Vagueness in Process and Requirements

- Customer shall not operate equipment to unduly affect the Company's voltage waveform.
- Many of the technical requirements were delineated in energy purchase agreements instead of technical guidelines

### **Several working groups formed to try to clarify and make uniform utility practices concerning DG:**

- Energy Center of Wisconsin (now Seventhwave)
- Renew Wisconsin

## Prior to PSC 119

There was no traction in clarifying and unifying the DG practices in Wisconsin until three things happened:

- Wisconsin Distributed Resources Collaborative (WIDRC) was formed and the DG Guidelines were first developed) [WisconsinDR.org](http://WisconsinDR.org)
- Focus on Energy Program
- **2001 Act 16** leading to **WI Statutes § 196.496** – Distributed Generation Facilities

# Enabling legislation: 2001 Act 16

## provision by Representative Dan Schooff that created: § 196.496 Distributed Generation Facilities

- Capacity of no more than 15 MW
- Located at a point where electricity will be used OR at a location that will support the electric distribution grid
- Develop rules establishing standards for interconnection
- Standards shall be uniform and promote distributed generation
- Standards shall address engineering, electric reliability safety concerns, and methods for determining the charges to interconnect
- Formation of advisory committee

## **Members of the PSC 119 Advisory Committee:**

Alliant Energy, MG&E, WEPCO, WPS, Xcel Energy, WPPI / MEUW, WI-Federation of Cooperatives, ATC

FABCO, IBEW (utility workers), IBEW (Local 2150), small DG Installers (2), Midwest Independent Power Suppliers, Kohler Power Systems, Vestas Wind

WI-DOA, WI-DNR, Focus on Energy, PSCW

Renew WI, CUB, MREA, SOUL, MSB Energy Assoc.

# Advisory Committee

## **General Rules and Process Goals:**

- clear and not obscure
- technology neutral, except where there are legitimate concerns for safety
- uniform throughout Wisconsin
- non-discriminatory to all parties

## **Participation:**

- supervised by Commission staff
- a quorum consists of 50% of all voting members
- meeting rules established by Commission staff
- Commission staff empowered to terminate debate and keep the process moving
- final recommendations by consensus or two thirds of all members
- one vote per member



## PSC 119 requirements are specific to generator nameplate ratings:

- **Category 1: 20 kW or less**      *with shorter application process*
- **Category 2: greater than 20 kW to 200 kW**
- **Category 3: greater than 200 kW to 1 MW**
- **Category 4: greater than 1 MW to 15 MW**

# Technical Requirements

- Interconnection disconnect switch
- Proper grounding practices
- Operating limits: islanding & power quality
- Minimum protection requirements
- Telemetry (where required)
- One-line schematic diagram
- Site plan

## Interconnection design requirements follow national standards:

1. Certified paralleling equipment to conform to **UL 1741 (January 17, 2001 Revision)** or an equivalent standard as determined by the commission.
2. Non-certified paralleling equipment to conform to the requirements of **IEEE 1547** (October 2003 referred to in Guidelines)

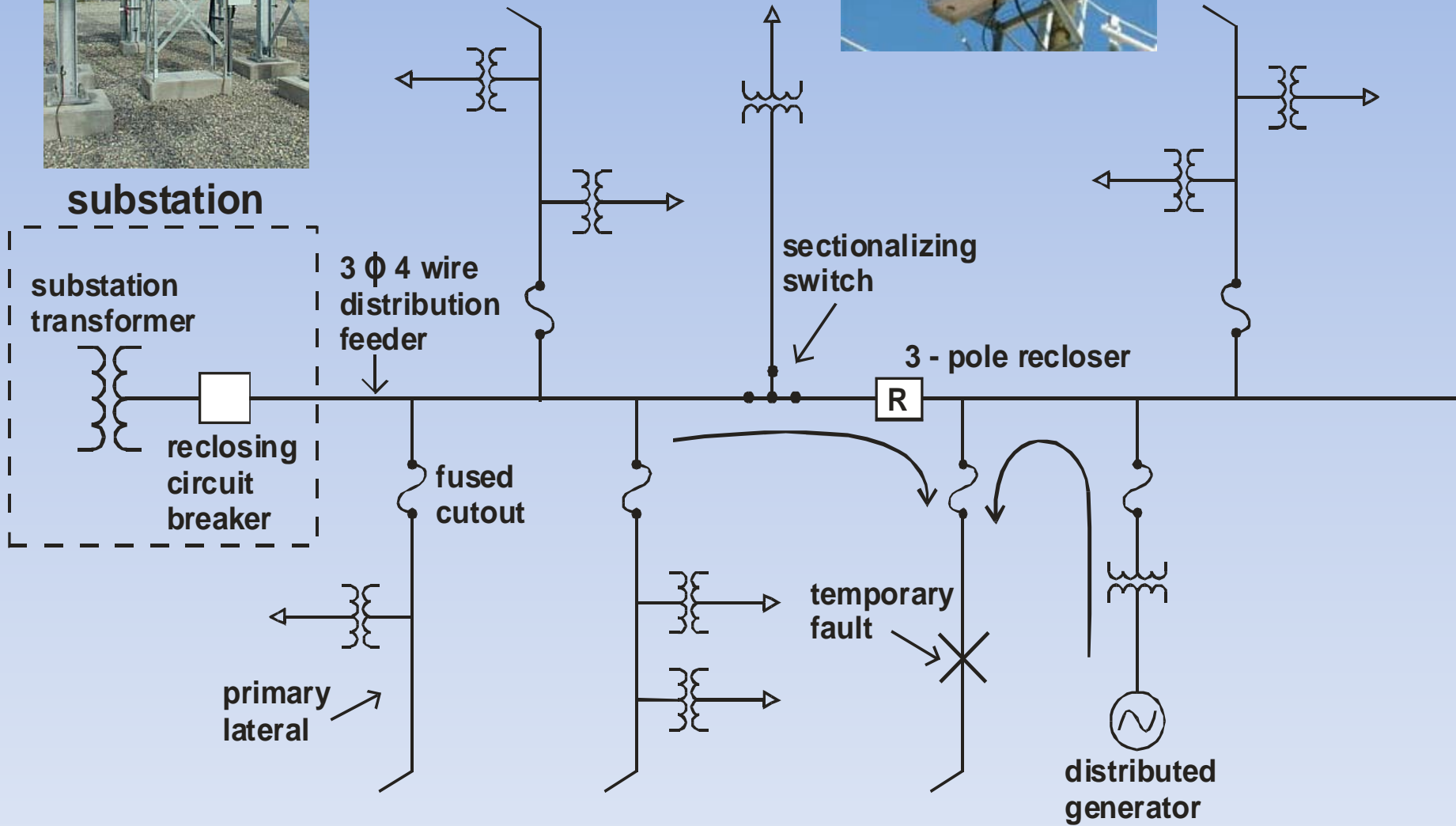
# **Business / Legal Requirements**

- **Liability insurance**
- **Mutual indemnification**
- **Disconnection policies**
- **Study fees (if necessary)**
- **Application to transmission company (if needed)**
- **Code compliance**

# Some “Sticking” Points in Developing PSC 119

- Disconnect switches
- Time periods for studies
- Indemnification
- Communication links for telemetry
- Commissioning testing





# PSC 119 Becomes Effective February 2004

- **22 Drafts of the Interconnection Guidelines** were circulated and edited over two years before being finalized
- PSC 119 was derived directly from the Guidelines
- Commission approved PSC 119
- PSC 119 was published in the WI Admin. Register (No. 577) on January 2004, becomes effective on 2-1-04

At that time, Wisconsin was one of the early states to update their interconnection standards and rules.

## What PSC 119 is Not About

- interconnections at 50 kVA or more
- power purchase agreements
- buyback rates (electric tariffs)
- power line extensions (PSC 113)
- environmental permitting
- municipal ordinances
- stranded cost recovery mechanisms
- economic / system benefits



**Questions ?**