



# **THE CANADIAN WOOD PRESERVATION INDUSTRY**

**Presented to  
BC BUILDING ENVELOPE COUNCIL**

**by**

**G.E. Brudermann, M.Sc.F.**

**FRIDO CONSULTING**

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# HISTORY

- 1910 FIRST PLANT – NORTH VANCOUVER
- 1911 FIRST TIE PLANT – WINNIPEG
- BY EARLY 30's – 26 PLANTS: CREOSOTE; 50:50
- LARGE DEMANDS AFTER WAR: TIES, POLES, BRIDGES AND FARM STRUCTURES
- EARLY 50's: PCP FOR POLES, FARM STRUCTURES
- EARLY 70's: CCA – WATERBORNE  
FIRST IN RESIDENTIAL USE  
THEN INDUSTRIAL

**BOOM IN PLANT OPENINGS**

**TREMENDOUS INDUSTRY GROWTH**

# CURRENT STATUS

67 PRESSURE AND THERMAL TREATING PLANTS

88 INDIVIDUAL FACILITIES

CCA	63
CREOSOTE	7
PCP	16
ACZA	1
BORATE	1

11 FACILITIES SWITCHING TO ALTERNATIVE PRESERVATIVES



# PLANT DISTRIBUTION

BC	16
AB	10
SK	5
MB	2
ON	17
QC	12
NB	1
NS	3
NF	1
PEI	0

**TOTAL**      **67**

# PRODUCTION (1999)

	VOLUME MILL. cuft	% TOTAL	VALUE MILL. \$	% TOTAL
CCA	110.0 (92 RES. LBR.)	90	600.3 (485.2)	83
CREO	7.3 (5.8 TIES)	6	68.3 (55.8)	9
PCP	5.1 (4.5 POLES)	4	56.0 (52.3)	8
<b>TOTAL</b>	<b>122.4</b>	<b>100</b>	<b>724.6</b>	<b>100</b>

# PRESERVATION

## PROCESSES

PRESSURE AND THERMAL

## TRADITIONAL PRESERVATIVES

- **OIL-BORNES:**      **CREOSOTE (1716)**  
                            **CREOSOTE:OIL (1905)**  
                            **PENTACHLOROPHENOL (1935)**
- **WATER-BORNES:**  
                            **CHROMATED COPPER ARSENATE-CCA**  
                            **(1939)**  
                            **AMMONIACAL COPPER ARSENATE-ACA**  
                            **(1970)**  
                            **AMMONIACAL COPPER ZINC**  
**ARSENATE-ACZA**                                      **(1985)**



# TREATMENT PROCESSES

**THERMAL (NON-PRESSURE)**

**IN OPEN TANKS-HOT/COLD BATH FOR UTILITY POLES**

**PRESSURE (IN CLOSED PRESSURE VESSELS)**

**FULL CELL (MOST COMMON)**

**EMPTY CELL (OIL-BORNES: TIES, POLES)**



# FULL CELL TREATMENT

## TYPICAL CCA PROCESS FOR LUMBER

- PLACE WOOD CHARGE INTO PRESSURE VESSEL
- INITIAL VACUUM: 30 minutes @ min. 22"
- PRESERVATIVE FILL: 5 TO 10 minutes
- PRESSURE CYCLE: 30 minutes TO 2 hours @ 150psi
- PRESERVATIVE PUMP-OUT: 5 TO 10 minutes
- FINAL VACUUM: 30 minutes TO 1 hour @ min. 22"
- REMOVAL OF WOOD CHARGE – TREATMENT COMPLETE

FIXATION PROCESS  
(HEAT AND MOISTURE)



# **INDUSTRY STANDARDS AND REGULATIONS (1)**

- **CSA 080 – CONSENSUS STANDARDS FOR COMMODITIES – RESIDENTIAL AND INDUSTRIAL**
- **CSA 0322 (2002 REAFFIRMED) – CERTIFICATION OF PLANTS TREATING PERMANENT WOOD FOUNDATIONS (PWF)**
- **CWPB AND INSPECTION AGENCIES FOR THIRD PARTY INSPECTIONS**

# INDUSTRY STANDARDS AND REGULATIONS (2)

- PRESERVATIVES DEFINED AS PESTICIDES
- REGISTRATION BY HEALTH CANADA – PEST MANAGEMENT REGULATORY AUTHORITY (PMRA):
  - TOXICITY
  - ENVIRONMENTAL
  - EFFICACY
- RE-EVALUATION OF CURRENT PRESERVATIVE REGISTRATIONS (1992 – NOW)
- LABELING PROGRAM

# **INDUSTRY STANDARDS AND REGULATIONS (3)**

- **STRATEGIC OPTIONS PROCESS (SOP –1992 TO 2006)**

**PRESERVATIVES/COMPONENTS TOXIC PER CEPA  
SOP – STAKEHOLDER FORUM (1992 – CONTINUING)**

**RECOMMENDATIONS (1999):**

**MAIN ISSUES:**

**WASTE**

**STORAGE**

**INFORMATION**

**TREATMENT PLANT UPGRADES**



# **SOP – PLANT UPGRADES**

- **CODES PREPARED FOR DESIGN AND OPERATION OF PLANTS**
- **ALL PLANTS UNDERWENT A VOLUNTARY AUDIT IN 2000 TO IDENTIFY SHORTCOMINGS**
- **BY 2001 PLANTS SUBMITTED IMPROVEMENT PLANS TO COMPLY WITH CODES BY 2005**
- **INDUSTRY UPGRADING PROCESS MONITORED:**
  - ANNUAL PROGRESS REPORTS**
  - RANDOM PLANT AUDITS UNTIL 2005**
- **ALL PLANTS TO BE AUDITED IN 2006**

**RESPONSIBLE INDUSTRY: PROACTIVE**



# **AN INDUSTRY IN TRANSITION**

**NEW-ENVIRONMENTALLY FRIENDLY  
PRESERVATIVES**

**MAJOR PLANT UPGRADES TO ENSURE  
MINIMAL ENVIRONMENTAL IMPACT AND  
HEALTH RISKS**

**BETTER INFORMATION DISSEMINATION**



**Questions ?**