

The Canadian Lumber Quality System

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1. INTRODUCTION

This report describes, from the perspective of CLSAB, the relationships of various entities within the Canadian softwood lumber industry which are related to the lumber quality system, i.e. the development and approval of standards and the grading and certification of lumber.

It includes discussion on the roles and activities of:

- American Lumber Standards Committee (ALSC),
- Canadian Lumber Standards Accreditation Board (CLSAB),
- Canadian Standards Association (CSA),
- Canadian Wood Council (CWC),
- National Building Code of Canada (NBCC),
- National Lumber Grades Authority (NLGA).

2. SUMMARY

The Canadian Lumber Standards Accreditation Board (CLSAB) is a federally incorporated no-share non-profit corporation. Its rights and legal powers are derived from its by-laws and regulations which are drafted in accordance with Part II of the Canada Business Corporations Act.

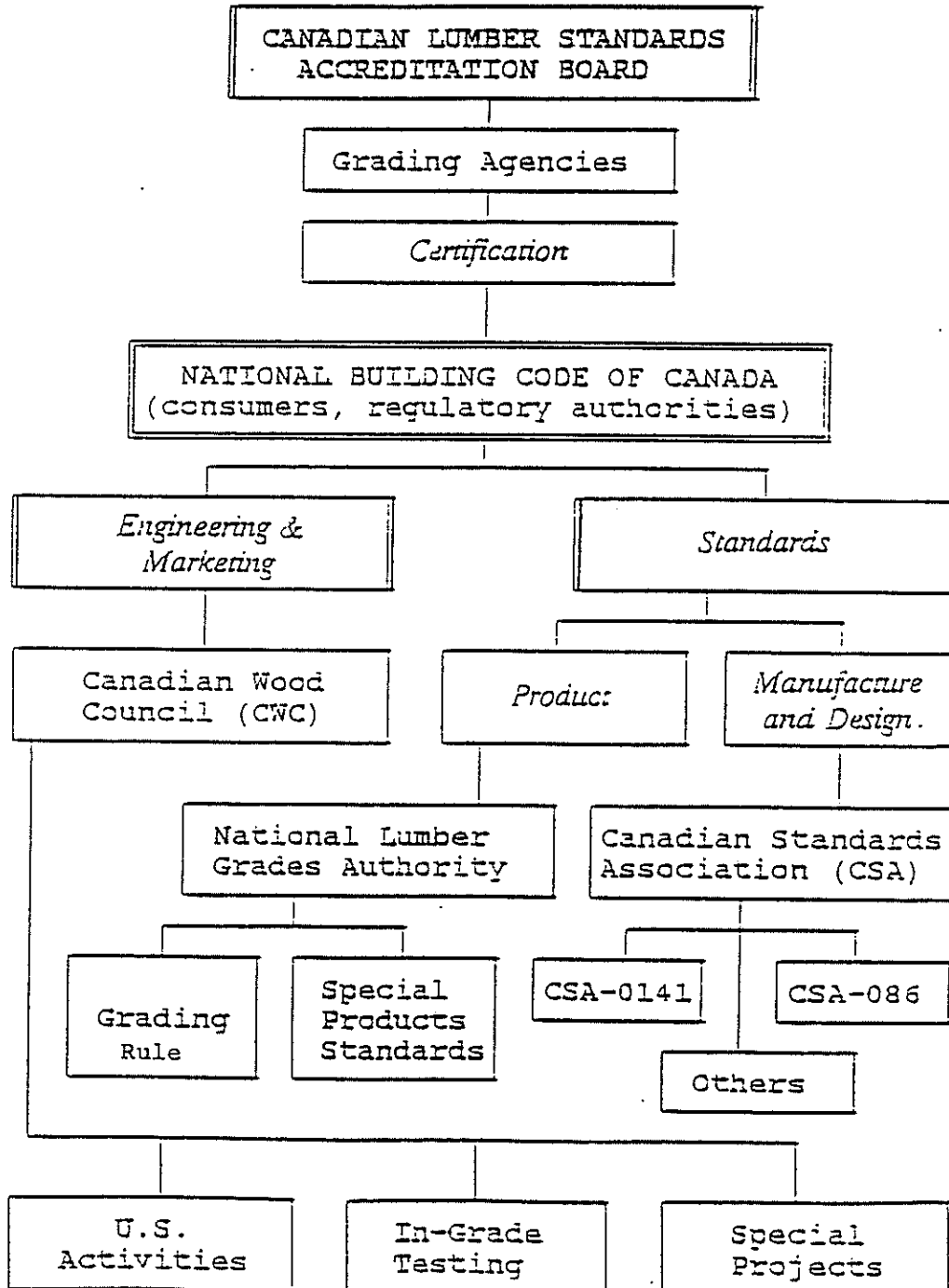
Members of the CLSAB, the Canadian grading agencies, become so voluntarily and only after meeting the accreditation requirements of the CLSAB. The authority and credibility of CLSAB accreditation is enhanced by virtue of its recognition in various Canadian codes and standards.

The primary document is the National Building Code of Canada, which requires conformance of Canadian softwood lumber with:

- CSA-0141, "Softwood Lumber",
- CSA-086, "Engineering Design in Wood",
- NLGA Grading Rules, and
- NLGA Special Products Standards.

These documents rely upon the use of Canadian softwood lumber that is grade stamped under the CLSAB system which, in large part, means grade stamped under supervision of accredited grading agencies.

a) Structure of the Canadian Lumber Quality System



The relationship between CLSAB and NLGA is that CLSAB is empowered to approve rules or standards written by the NLGA that are subsequently used by lumber grading agencies. In addition, CLSAB formally recognizes the NLGA as the interpreter for the NLGA rules or standards. CLSAB must ultimately be satisfied that the standards submitted to it by NLGA are adequate for the purposes intended. CLSAB does not however recognize the NLGA standards writing process per se, rather it provides only a document by document approval.

The functional link between CLSAB and CSA is that CLSAB is referenced in CSA 0141 as an organization that accredits grading agencies. The CSA standards are predicated on the use of lumber manufactured and graded with the grade stamp of an accredited agency.

There is cross representation of people among CLSAB, NLGA and others, as shown in the preceding figure a). The major cross representation is between the CLSAB Members and the NLGA Board of Directors. In addition, the CLSAB and NLGA organizations share the same office and staff.

The CWC provides a national marketing and engineering role. The CWC provides the secretariat for CSA 086 and other engineering standards, as well as providing wood industry guidance and span calculations to the National Building Code. The CWC provides engineering support to the CLSAB and NLGA as required.

The ALSC operates in parallel with CLSAB, but remains quite separate and autonomous. It independently accredits Canadian grading agencies whose trademark may appear on lumber in the U.S.A. It also approves Canadian produced (NLGA) rules to the extent of verifying conformance to certain basic requirements in its National Grading Rule (NGR).

3. THE NATIONAL BUILDING CODE OF CANADA (1990)

The National Building Code of Canada (NBC) comprises a set of technical requirements for buildings and provides a model code suitable for adoption by regulatory authorities. It references a number of standards including:

- CAN/CSA-086, "Engineering Design in Wood",
- CSA-0141, "Softwood Lumber", and
- NLGA Grading Rules for Canadian Lumber.

In particular, NBC Part 4, "Structural Design" states that buildings and structural members made of wood shall conform to CAN/CSA-086.

Also, NBC Part 9, "Housing and Small Buildings" (three storeys or less, and less than 600 sq.m.) requires that lumber for joists, rafters, trusses, beams, columns, sheathing, sub-flooring, etc. will be identified by a grade stamp to indicate its grade as determined by the NLGA Standard Grading Rules for Canadian Lumber.

The Appendix to Part 9 describes the grade marking of lumber. In particular, it provides facsimiles of grade marks of agencies and indicates that these agencies are accredited by CLSAB in accordance with CSA-0141.

4. CSA STANDARDS IN THE NBC

a. CAN3-086, "Engineering Design in Wood"

This standard provides the basis for engineering design of wood in Canada. It is directly referenced in the NBC and, in turn, references a number of other standards, in particular:

- CSA Standard CSA-0141, "Softwood Lumber",
- NLGA Standard Grading Rules for Canadian Lumber
- NLGA Special Product Standards
 - NLGA SPS 1 Fingerjoined Structural Lumber
 - NLGA SPS 2 Machine Stress-Rated Lumber
 - NLGA SPS3 Fingerjoined Stud Lumber - Vertical Use Only

The references which are of particular significance in CSA-086 appear under Section 5, "Sawn Lumber". To illustrate, the following is extracted from that standard:

Section 5, Sawn Lumber

"5.2.1.1 General

Design in accordance with this Standard is predicated on the use of lumber that is graded in accordance with NLGA Standard Grading Rules for Canadian Lumber and identified by the grade stamp of an association or independent grading agency in accordance with the provisions of CSA Standard 0141.

Note: A list of approved agencies may be obtained from the Canadian Lumber Standards Accreditation Board."

"5.2.2.2. Machine Stress-Rated (MSR) Lumber and Machine Evaluated Lumber (MEL)

Design data specified in this Standard apply to lumber graded and grade stamped in accordance with NLGA Special Product Standard 2, and identified by the grade stamp of an association or independent grading agency approved by a nationally recognized agency for grading by mechanical means.

Note: A list of approved agencies may be obtained from the Canadian Lumber Standards Accreditation Board."

"5.2.3. Finger Joined Lumber

Design data specified in this Standard apply to finger joined lumber that has been produced and grade-stamped in accordance with NLGA Special Product Standard 1."

b. CSA-0141. "Softwood Lumber"

While CSA-086 provides a basis for design of lumber, CSA-0141 forms the basis for manufacture of lumber, ie. it covers means of classification, measurement, requirements for grading rules, basic requirements for inspection procedures and identification. The standard accomplishes this by defining its requirements in terms of "Canadian Standard Lumber".

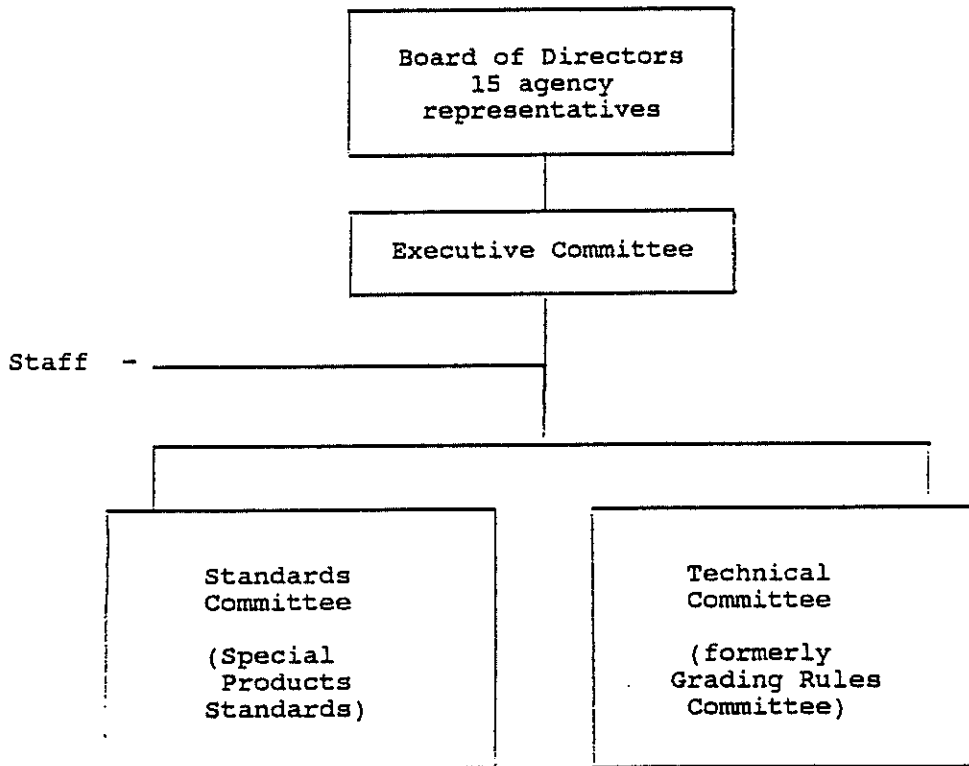
Specifically, CSA-0141 requires that grading rules for Canadian Standard Lumber be subjected to approval by an "accreditation board". This includes visual, MSR, and finger-joined lumber. Essentially, if lumber is to be identified by a grade stamp, then that stamp shall be represented by an accredited agency.

The standard also describes in more or less generic terms what is required of an "accreditation board" including its structure and membership. CLSAB meets these requirements.

5. NATIONAL LUMBER GRADES AUTHORITY

a. Structure of the NLGA

NLGA is a standards writing organization structured as follows:



Currently all grading rules and standards approved in accordance with the Bylaws and the Regulations of CLSAB are published by the NLGA.

b. **Standards of the NLGA**

While CSA standards represent a broad range of materials, disciplines, and interests, NLGA is limited in scope to the lumber field. The documents produced by the NLGA are:

- NLGA Standard Grading Rules for Canadian Softwood Lumber
- NLGA SPS 1 Fingerjoined Structural Lumber
- NLGA SPS 2 Machine Stress-Rated Lumber
- NLGA SPS 3 Special Products Standard for Fingerjoined Stud Lumber - Vertical Use Only
- NLGA SPS 4 (Draft) MSR/Finger Joined Lumber.

c. **Procedures of the NLGA**

NLGA is governed by regulations and procedures as follows:

- (1) NLGA By-laws,
- (2) NLGA Technical Committee Procedures and Regulations,

Of particular importance to the CLSAB in fulfilling its role as the approval body for NLGA rules is the NLGA Technical Committee Procedures and Regulations. These procedures were established to ensure a rigorous standards writing procedure and to remove the perception held by some that standards are "industry-prepared".

These procedures were necessary to allow the CSA-086 committee to incorporate the SPS 1 and SPS 2 as a referenced standard. Similarly, Part 9 of the NBC now incorporates SPS 3.

It is important to recognize that the NLGA Technical Committee Procedures and Regulations contains elements of "due process" that are generally expected of such standards writing organizations. To highlight a few of these elements:

- (1) Balanced committee (for the SPS standards). This balances

the manufacturing industry's viewpoints with all other interest groups including consumers, users, academia, government and regulatory authorities.

- (2) **Transparent and Accountable Voting Process.** This is a two-level (Committee and Board) process, and specifically provides a rigorous procedure for resolution of negative ballots.
- (3) **Interpretation Procedures.** This provides a set of guidelines for Standards interpretation. Note that by virtue of CLSAB's "approval" of the NLGA Grading Rules for Canadian Lumber (as stated in the first page of that document) CLSAB has accepted that the authority for rules interpretation belongs to NLGA (as noted in Section 2 of the Rules).

One of the misconceptions of NLGA is that it will act as arbitrator, or at least interpreter, of lumber grades as they may be applied by the accredited agencies in the field. This is only true to the extent that NLGA applies interpretations to the rules and standards as published by NLGA. It does not apply to interpretation of the grading practices of lumber in the field. NLGA publishes rules, it does not grade lumber.

d. **Revenue of the NLGA**

NLGA derives its revenue in the following ways:

- (1) Through assessment to the grading agencies, calculated on North American shipment figures,
- (2) Annual membership fee, and
- (3) Sale of publications and documents.

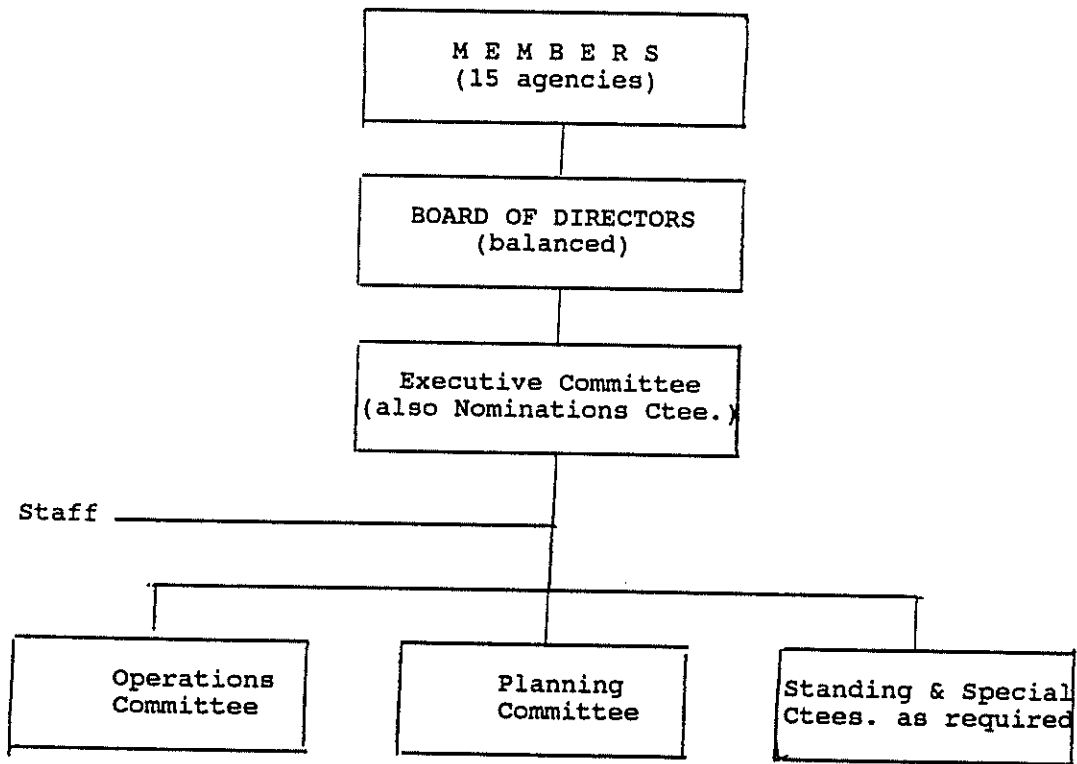
It also collects funds from industry for the in-grade testing program. The funding is shared to an extent with the Federal government.

6. CANADIAN LUMBER STANDARDS ACCREDITATION BOARD

CLSAB's primary roles are the accreditation of agencies and the approval of the rules and standards used by these agencies.

As noted earlier, the National Building Code references CSA-086 and CSA-0141 which in turn specify the need for an accreditation board. When the code is adopted by regulatory authorities, the CLSAB is recognized by the regulatory authority by way of the reference to CLSAB in the code. This recognition does not in itself grant any authority to CLSAB, but does provide both the Board and its standards with credibility.

a. Structure of CLSAB



b. **Procedures of CLSAB**

CLSAB has procedures as follows:

- Regulations
- General Inspection and Reporting Procedures

It is not the role of CLSAB to rule on disputes over lumber grades as written or as encountered in the field unless it is related to the accreditation of the agency involved in the certification of the lumber.

c. **Revenue of CLSAB**

CLSAB derives its revenue in the following ways:

- (1) Through assessment to the grading agencies, calculated on North American shipment figures, and
- (2) Annual membership fees.

7. **CANADIAN WOOD COUNCIL**

The Canadian Wood Council is an industry-funded association representing lumber and related wood product members. Its role is to develop technical product information (including for standards) and communicate it to wood specifiers and regulators.

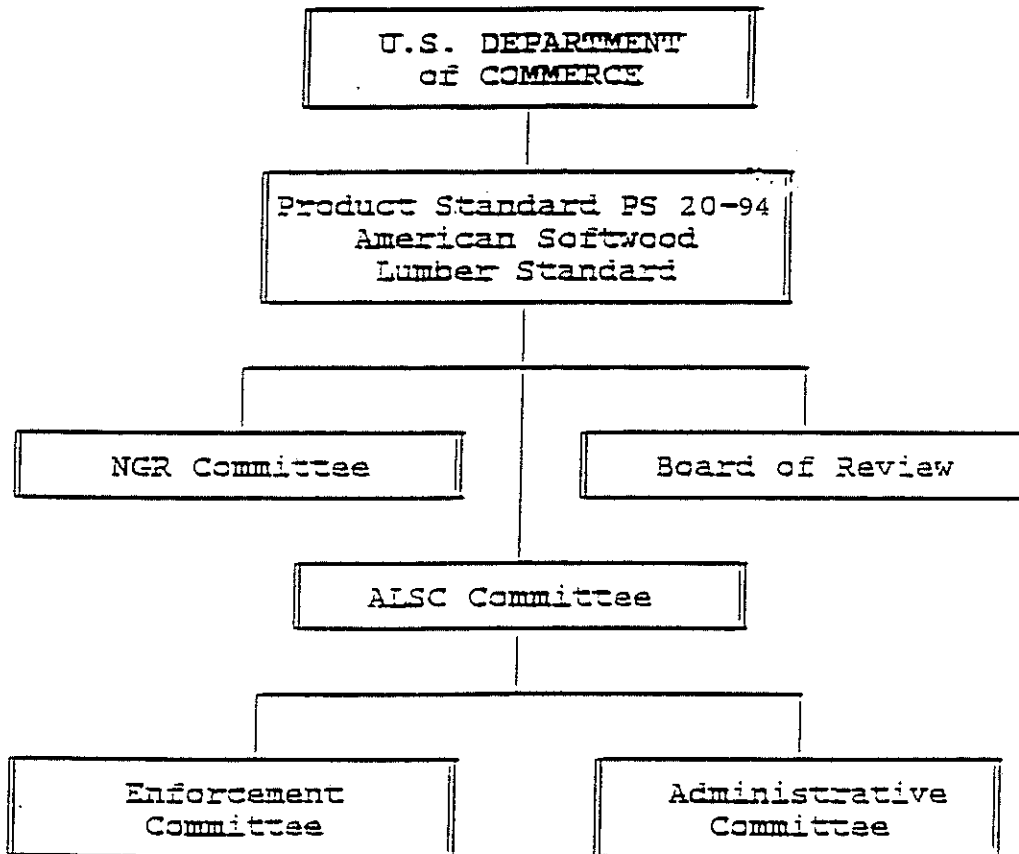
CWC represents the interests of the wood industry on CSA 086.1, as well as on other standards that establish lumber design values and engineering procedures, based on the grades described in the grading rules. CWC also represents the wood industry through CWC, has the responsibility for building code representation in the U.S.

CWC also carries out projects on an as-required basis. For example, the In-Grade testing project was managed on behalf of NLGA and was directed at developing and implementing improved design values for Canadian lumber. CWC undertook analysis of the data and submitted the results to the American Lumber Standards Board of Review for acceptance. When the values were accepted, CWC also undertook to communicate the results to users.

In essence, CWC provides the engineering link between the rules writers such as CSA and NLGA and the end users of the wood product. It provides a link between the standards process and the North American codes and standards arena.

8. AMERICAN LUMBER STANDARDS COMMITTEE

a. Structure



ALSC conducts its own field inspections and maintains a separate set of records and enforcement criteria on the accredited agencies operating in Canada for lumber shipped into the U.S.A.

Canadian interests are not represented on the ALSC. The composition of the Committee, which is listed in NBS Voluntary Product Standard, PS 20-94 (VPS 20-94), is appointed by the

Secretary of Commerce. It essentially consists of a balance of representatives from rules writing and inspection agencies, and users. The user component is comprised of lumber distributors and wholesalers, lumber retailers, intermediate manufacturers, wood using industries, general contractors, home builders and architects and engineers.

The National Grading Rule for Dimension Lumber is written by the National Grading Rule Committee upon which Canada's rules writing agencies (NLGA) can elect one member. This rule is directly referenced by the NLGA Grading Rules. With respect to the remaining rules in the NLGA Grading Rules (i.e. boards, factory, decking, etc.), any changes must be in conformance to existing U.S.A. standards.

ALSC does not "approve" special products standards type procedures as does CLSAB. It only ensures that the grading agencies are monitoring their mills in accordance with whatever special standards are declared. In all cases, all rules and standards are to be in conformance with VPS 20-94, "American Softwood Lumber Standard" which in many ways parallels CSA-0141, "Softwood Lumber" because each provides the basic framework for the manufacture and provision of softwood lumber.

The Board of Review, in its role as a reviewer of accredited agencies, is somewhat similar in its activities to the CLSOC. It differs in a major way in that the Board of Review gains its authority as a body elected by the ALSC and concurred by the U.S. Department of Commerce, as provided for in VPS 20-94. (This Board has been appropriately referred to as "three paid judges".) On the other hand, the CLSOC is appointed by the directors as provided in the CLSAB By-laws, consisting of 3 - 5 members, having regard to balance of representation.

ALSC also has an Enforcement Committee that is responsible to review and update the ALSC Enforcement Regulations and Guidelines similar to CLSOC's responsibility for CLSAB Regulations.

9. CONCLUSION

While there appears to be a multiplicity of Canadian and U.S. organizations involved in the standardization of Canadian lumber, the industry functions effectively.

In summary, looking at the regulation of the softwood lumber industry strictly from the point of view of maintaining the quality of Canadian lumber, one sees:

- NBC - basic regulation
- CLSAB - accreditation (Canada)
- ALSC - accreditation (U.S.A.)
- NLGA - standards (product) and grade stamping
- CSA - standards (manufacture and design)
- CWC - engineering

Simply stated, the roles of CLSAB and NLGA are as follows:

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| CLSAB accredits agencies and standards. | - | NLGA publishes standards and its member agencies oversee the grade stamping of lumber. |
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