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Load Security Research Technical Advisory Committee

August 16-17, 1993

Boardroom EB 4,5, and 6, East Building  
Ontario Ministry of Transportation  
1201 Wilson Avenue, Downsview  
Toronto, Ontario

Members:

R. Covello - Chair	Ontario
E. Adair	NY State Police
J. Bedingfield	Alberta
J. Billing	Ontario
R. Camball	Manac Trailers
B. Cann	Ontario
G. Cooper	Canadian Trucking Association
G. Desrosiers	Québec (MTQ)
B. Easter	Stelco Inc.
S.P. Fassaert	Stelco Inc.
C. Fetz	Great Dane Trailer
R. Fiste	CVSA
R. Ford	Newfoundland
D. Gignac	Québec (SAAQ)
D. Giguere	Québec (SAAQ)
G. Golas	Connecticut - DMV
D. Kemp	Dorsey Trailers
R. Loraine	Stelco Inc.
C. Lucas	The Crosby Group
D. MacKay	Scheltema Trailer
A. Martell	Nova Scotia
S. McAlister	CCMTA Secretariat
W. Mercer	Ontario
L. Minor	FHWA - Office of Motor Carriers
B. Moore	Alcan Aluminum (Oswego, NY)

R. Oldridge	British Columbia
J. Palmer	New Brunswick
D. Pitts	Algoma Steel
H. Robinson	FHWA - Office of Motor Carriers
M. Ryan	New York - DOT
B. Scheltema	Scheltema Trailers
M. Schmidt	FHWA
L. Strawhorn	American Trucking Association
L.-P. Tardif	Canadian Trucking Research Institute (CTRI)
G.A. Tucker	Canadian Transportation Equipment Association
S. Vespa	Transport Canada (TDC)
J. Woodrooffe	National Research Council of Canada (NRC)
R. Wycliffe	Ontario

### Record of Decisions

#### 1. Opening Remarks

Mr. Covello the Chair of the CCMTA Task Force on Load Security welcomed the participants to the meeting. A brief history on the origins of the load security issue was provided where it was noted the lack of uniformity of requirements within Canada had been identified as a barrier to inter-jurisdictional travel. The Standing Committee had created the Task Force to address some of these problems. As a result of initial work undertaken by the Task Force to review and develop a new standard a whole series of research issues had been uncovered. The Load Security Research Technical Advisory Committee had been created to review and address the research issues which had been identified.

#### 2. Welcome

Mr. Wycliffe welcomed the participants to MTO, Toronto, and Ontario. He provided a brief history of the load security issue noting interest in the project had expanded beyond just Canadian jurisdictions and the project was becoming international in scope. Mr. Wycliffe indicated there was a significant opportunity being afforded to the group to create a uniform north american load securement standard.

Mr. Wycliffe indicated he would look forward to reviewing along with his colleagues on the Standing Committee on Compliance and Regulatory Affairs the work product of the group. Mr. Wycliffe expressed the hope the meeting would be successful and productive.

**3. Introductions**

A general round of introductions among the participants occurred. Most participants strongly supported the need for undertaking research with respect to load security. It was **agreed** copies of the participants business cards would be appended to the Record of Decisions (See Appendix A).

All attendees **confirmed** they had received the document entitled "A Proposal for Research to Provide a Technical Basis for a Revised National Standard on Load Security for Heavy Trucks".

**4. Adoption of Agenda**

It was noted the review of the proposal would cover the issues of management, administration, and a schedule for completion. The agenda was **adopted**.

**5. Process to Achieve a Uniform Load Security Standard**

A brief discussion of the process to be followed including the reporting structure ensued. It was indicated the Load Security Technical Advisory Committee was expected to complete the research plan and form the partnerships to undertake the research. The research results will result in principles which can be used by the Task Force on Load Security to develop a uniform standard for load security. It was clarified the Technical Committee would be reporting directly to the Task Force on Load Security who in turn reported to the CCMTA Standing Committee on Compliance and Regulatory Affairs.

Mr. Schmidt provided an overview of the FHWA research plan noting research on load security had not been targeted before 1995 but as a result of the Canadian initiative and recent accidents, the FHWA was bringing forward their schedule for research and was eager to participate in the Canadian program. Mr. Schmidt indicated the FHWA believed this to be an important initiative and was willing to contribute an initial \$50,000 to the cost of the research.

Mr. Fiste of CVSA **tabled** for information copies of comments which had been made by various officials in the U.S. during hearings on load securement. A number of major accidents with fatalities had led to congressional hearings on load security.

**6. Review and Discussion of the Research Proposal and Comments**

Messrs. Billing and Mercer provided an overview of the research document noting the key elements in load security systems were not well understood or documented. Reliable data was not readily available for analysis and the research proposal sought to correct this situation.

The work described in the proposal has three objectives:

- 1) to determine how parts of load security systems contribute to the overall capacity of those systems;
- 2) to demonstrate the adequacy of elements, and the overall capacity, of load security systems for heavy trucks; and
- 3) to develop principles, based on sound engineering analysis, that could contribute to a revised national standard on load security for heavy trucks.

A summary of the original 17 research issues/questions was provided a long with the rationale for keeping or not keeping the issues in the proposal.

A general discussion ensued on load securement with a number of participants suggesting the current requirements were adequate. It was noted there did not appear to be any empirical evidence to either confirm the adequacy or inadequacy of current load security systems. It was agreed the research proposal as a minimum would address the absence of data.

Mr. Tardif of the CTRI suggested a better definition of the problems which had been experienced by jurisdictions be included in the introductory sections of the proposal. Statistics on load security accidents would be useful, a long with a description as to why these were important. It was noted provincial data collection was not specifically geared towards collecting load securement information. Mr. Tardif indicated the industry was interested in changing patterns of the freight being hauled, and indicated it was important the research generated principles which recognized the evolving nature of freight traffic patterns, and the changing weight and size of the goods being transported. Future load security requirements should recognize inter-modal requirements and specialized freight. It was noted at this juncture the Committee was not specifically concerned with the rulemaking or the writing of the rules as this would come only after the research had been completed.

Mr. Strawhorn of the ATA indicated it was essential the Committee have a firm understanding of what information is needed and sought when reviewing the research proposal.

Mr. Ford of Newfoundland noted the Task Force on Load Security was responsible for developing a response to a Labour Canada initiative which would entail parallel or duplicate regulation of load securement requirements for lighter vehicles. He suggested the research proposal should be expanded to cover the requirements for cargo vans and lighter vehicles. Mr. Billing undertook to review and if possible modify the proposal to address this issue.

Mr. Camball of Manac Trailers identified the misuse of trailers as one of the issues or problems with respect to load securement. Trailers are being used for multiple applications some of which they were not designed to handle. Trailer manufacturers have a number of off-road "packages" which truckers can select which have improved capabilities for load securement. Mr. Camball made available to Mr. Billing some of the studies which had been done in France with respect to load securement.

Some discussion occurred on the preliminary work being undertaken by the vehicle standards section of Transport Canada to develop a CMVSS standard relating to heavy trailer cargo anchor points. It was noted this initial work had been undertaken as a result of a Transport Canada study of heavy truck accidents where shifting loads had been identified as the main, or contributing factor in the accidents. It was noted the working load limit for anchor points would be addressed in part by a federal standard but that still left vehicles which were not subject to the standard and which were regulated by the provinces.

Mr. Vespa undertook to contact the safety standards section of Transport Canada to get an update on the work. The vehicle and trailer manufacturers in attendance indicated they had not commented on the preliminary work undertaken by Transport Canada. A copy of the draft work on a federal standard was circulated to all participants. It was agreed anyone who wished to comment on the draft was to contact Mr. John Neufeld of Transport Canada at (613)-998-1959.

In discussion it was noted some of the original 17 issues had not been incorporated into the research proposal either because the matter was deemed to be an issue for the Task Force on Load Security, or the existing requirements were not known to be inadequate. In response to a suggestion that "header" boards be reviewed, it was noted the U.S. currently has a requirement which was not known to be inadequate.

It was clarified the majority of tests would be done under laboratory conditions utilizing test rigs. The logistical problems associated with failing equipment in a dynamic environment were briefly summarized. It was noted analysis and simulation would be used to supplement tests as appropriate.

Mr. Mercer **tabled** the revised test elements which were to be incorporated into the test plan. A summary sheet of the comments received from jurisdictions on the original proposal was also **tabled** for information. It was clarified the Committee would approve the overall test program, and the various additions and amendments which had been suggested by the participants. Mr. Billing indicated the purpose of the meeting was for the experts to conduct a detailed review of the issues identified in the research proposal. Participants were asked to confirm, amend, delete, or add as necessary to the proposed work plan for the research.

The participants were asked to note any specific research which might be useful for the project or specific tests contained in the proposal. It was suggested and **agreed** an item by item review of the proposed tests be undertaken.

Discussion centred on what criteria would be used to select the welds, D-rings, and stake pockets for tests 7.2 and 7.3. It was noted there was a wide variety of weld patterns and thickness in use. Ontario indicated they could not test all configurations but rather 3-5 of the most prevalent configurations would be used. It was noted at present there were no minimum standards for anchor points and as a result the research should point the way for the development of an anchor point standard.

Mr. Woodroffe indicated testing of new tiedowns would not give results which would reflect the effects of time, corrosion, and degradation on the integrity of the load security systems. This point was acknowledged but a number of participants stressed the importance of developing the base line data. The effect of continuous anchor points down the frame of the trailer was discussed. The difficulty of constructing test rigs which will simulate actual trailer component performance was briefly discussed. It was suggested the strength of the frame rail to be used for the tests should be reviewed. It was acknowledged it would be expensive and cumbersome to include a variety of frame rails in the testing.

The trailer manufacturers in attendance were requested to review the post pocket pull out test and provide some guidance on the trailer frame specifications. It was noted a typical configuration could consist of a frame with three cross pieces. It was acknowledged the frame would be designed not to fail before the anchor points. The test procedure for item 7.2 was **approved** with the addition of the 5 pocket types.

It was **agreed** the web tensioning ratchet test (item 7.2.(A) and Figure 2 a.) would be **approved** and **added** to the test program. It was **agreed** standard web ratchets which could be welded, slotted, and clipped onto the frame would be tested.

Figure 2 and Item 7.3 relating to D-ring pull out strength was **approved** by the Committee. Figure 3 and item 7.4 relating to chain in tube strength was **approved** by the Committee.

Figure 3 a. pertaining to the attached anchor pull test was approved by the Committee. It was further **agreed** three different sizes of anchor would be used for the test.

For Figure 4 - Chain Wrap and Stake Pocket Strength (Item 7.5) it was **agreed** the test would include aluminum pockets, and an additional test procedure for chain wrap would be **added** to the test proposal. It was noted this series of tests would show the effect of chain wrap on the strength of the test pocket.

Item 7.6 and Figure 5 pertaining to rub rail strength was **approved** with the addition of another test where the chain is wrapped around the rub rail support stub. It was suggested two different sized rub rails be used in this test.

A brief description of the tests relating to tiedown assemblies (Section 8) was provided. A general discussion on chain strength, the working limits, and the pulley effect ensued.

Item 8.2 and Figure 6 was **approved** with the chain lengths being **amended** to 3, 10, and 20 foot spans. It was further **agreed** that 5/16" grade 7, 3/8" hi-test grade, and 1/4" grade 4 chain would be used in the test. Figure 7 (Item 8.3) pertaining to the effect of corner radius on chain tiedown was **approved** with the understanding the chain identified in item 8.2 would also be used in this test.

Figure 8 - Item 8.4 relating to equalization of tension in tiedowns was **approved** as written after an extensive discussion relating to pre-load tension.

Figure 9 - Item 8.5 pertaining to the effect of lateral motion on tiedown tension was **approved**. It was **agreed** the angles in the test would be 45, 60, and 80 degrees. Figure 10 - Item 8.6 pertaining to the effect of longitudinal motion on tiedown tension was **approved** with the understanding the angles in the test would be 45, 60, and 80 degrees.

A brief overview and description of tests which would be undertaken with respect to blocking was provided. It was acknowledged by the participants this testing would be difficult as there were many different types of wood available for blocking. Mr. Billing indicated as a result of comments received from the participants the force which would be applied to the blocking during these tests would be both high and low.

It was suggested published ratings from the wood and nail industry would be useful to review prior to commencing these tests. It was **agreed** both softwood (Pine) and hardwood (oak) flooring would be used to measure the load capacity of nailed wood blocking. It was **agreed** 3 1/2 inch nails would be used. It was **agreed** three types of blocking (birch, spruce, and pine) would be used for the testing. It was **agreed** oak would be **deleted** as a blocking material. It was **agreed** the testing of 2" by 4" material would be **added** to the tests. With these amendments figures 11, 12, and 13 (items 9.2, and 9.3) were **approved**.

It was noted for Figure 14 - Item 9.4 relating to sheer strength of stakes that this information was well documented by wood handlers and this test could probably be deleted from the proposal. It was suggested there may be value to retaining this test for demonstration purposes. For figure 15 - Item 9.5 it was **agreed** an industry standard post of 36" would be used. The tests were **approved**.

It was **agreed** a 6" by 6" block of oak and pine would be used for the test in Figure 16 - Item 9.5. It was further **agreed** a 1/4" and 3/8" chain and 1/4" and 1/2" steel cable would be used for the tests. In addition 2 inch webbing would be used. It was **agreed** the three test angles would be 90, 60 and 45 degrees. The test was **approved** with these amendments.

A general discussion on loads which are placed in vans and blocked against the side or walls of the vehicle occurred. The trailer manufacturers in attendance indicated a distinction had to be made between normal palletized loads and rolls of paper. A number of recent incidents have involved rolled paper. The walls of trailers are not designed for dynamic movement within the trailer. The practice of blocking against a van wall is not recommended by the manufacturers and as such it was suggested that no attempt be made to include this issue in the test proposal. It was acknowledged this problem was more an issue for rulemaking than for research. The requirement to have D-rings in the floor of vans could be discussed by the Task Force on Load Security at a later date.

An overview of the testing which was being recommended for section 10 pertaining to the subject of friction was provided. The Committee modified the testing to include coarse and smooth hardwood flooring, grooved aluminum (pulling toward and against the grooves), and transdeck. The skid material was amended to include concrete and rubber as slider material. Figure 17 - Item 10.2 was **approved** with these amendments. Figure 17 a and b. - Item 10.3 pertaining to concrete pipe on-wooden blocks and concrete pipe was **added** to the test proposal.

It was noted for the most part all the friction co-efficients would be generated using static test procedures. It was suggested by Mr. Woodrooffe some effort should be made to generate data based on dynamic testing. A verbal presentation was provided on a test procedure which would allow for dynamic factors to be included in some of the friction co-efficients. It was **agreed** Mr. Woodrooffe would submit a test plan for incorporation into the overall test program.

Mr. Desrosiers **tabled** a test protocol for dressed lumber and bricks noting the tests would entail both static and dynamic testing using a tilt table. It was noted Québec was prepared to undertake this portion of the testing in the overall research proposal.

A review of the proposed tests was undertaken. Discussion focused on the appropriate pre-load tensions which would be used for the tests. It was suggested 20% of the available working load limit should be used for pre-tension. It was further indicated drivers frequently exceed the proper pre-tension and as such the chain loses strength. The Committee attempted to generate appropriate numbers which would represent applications in the field. It was suggested some of the most recent european work on this subject should be incorporated into the proposal. The draft Swedish standard for load securement was distributed for information.

The issue of whether webbing and tiedowns have the same elasticity so as to develop significant and different pre-tension values was discussed. It was **agreed** 5, 20, and 50% of the working load limit would be used for the low, medium and high tensions indicated in the test. It was **agreed** these values would be used for the previously approved elements of the overall test proposal.

Sections I-VI of the Quebec test proposal was **approved** by the Committee. It was **agreed** the Québec proposal would be accepted and incorporated into the overall proposal. It was **agreed** a significant amount of coordination would have to be undertaken between Ontario and Québec to ensure the test protocols were similar. No problems were anticipated in this regard.

A brief discussion ensued on a BC suggestion that a load securement method involving inter-looping the load be tested as part of the overall test program. Upon review it was **agreed** no apparent merit could be ascribed to this method and as such the suggestion was not incorporated into the test program.

Mr. Mercer provided an overview of the testing to be undertaken for metal coils noting it would be extensive. The various tests would provide specific data which could be interpreted with the data from the other tests to generate some regulatory principles.

The tests to determine the effect of friction on load securement for metal coils (Item 12.2 - Figure 20) were reviewed by the Committee. It was **agreed** for the tests where the eye of the coil is vertical the tests would be conducted on pallets to reflect standard industry practice. It was **agreed** the interface in these tests will be wood and wood plastic. It was **agreed** the eye lateral tests would be conducted on smooth aluminum and steel. The Algoma representatives indicated they could provide the plastic material for the test.

It was suggested and **agreed** a further test would be added to this series of tests. It was **agreed** a 10,000 lb. aluminum coil would be placed eye vertical on a skid and bonded to the skid. The test would attempt to determine what force was required to break the coil out of the bonding. It was **agreed** grade 70 chain would be used. It was also **agreed** the test should include a 50,000 lb. coil.

Item 12.3 (Figure 21) pertaining to the effect of blocking on an unsecured metal coil was **approved**. It was noted the standard industry practice was to use 4 and 6 inch bevelled blocks. It was noted in some U.S. states there was a requirement for the coil to touch the deck of the trailer. Following discussion it was **agreed** the test would be conducted both with the coil touching and elevated from the trailer deck. It was further **agreed** the test would use square and bevelled blocking. It was **agreed** a 50 and 72 inch diameter metal coil would be used in the test.

Item 12.3 (Figure 22) was **approved** with the understanding a lateral pull against the blocking would be **added** to the test. It was **agreed** square and bevelled blocking would be used along with 50 and 72 inch diameter metal coils. It was further **agreed** the test would be undertaken both with the coil touching and elevated from the trailer deck. Item 12.3 (Figure 23) was **approved** by the Committee.

Item 12.4 (Figure 24) was **approved** by the Committee. Item 12.4 (Figure 25) was **approved** by the Committee with the understanding the pre-load on the chain would be 5, 20, and 50% of the working limit of the chain. It was further **agreed** 1/4" and 3/8" grade 70 chain would be used in the test. It was further **agreed** a 15 and 45 degree angle for securement would be tested. It was acknowledged the size of the coil was probably not important for this test.

Item 12.5 (Figure 26) was **approved** with the understanding an 85 degree angle for securement would be substituted for the 90 degree angle. The test would also include a test of the 45 degree angle for securement.

Item 12.6 (Figure 27) was **amended** to include the use of a 50 inch aluminum coil. It was **agreed** the test will compare both 4 and 6 inch blocks and the blocks would be both square and bevelled. It was further **agreed** to add one test using 4" by 4" inch bevelled blocks on rubber.

Item 12.7 (Figure 28) was **amended** to include a bevelled block. It was also **agreed** one of the floor conditions will be a rubber mat between the dry wood floor and the cradle. Item 12.8 (Figure 29) was **approved**.

Item 12.9 (Figure 30) was **amended** to include 4 by 4 inch bevelled blocks instead of square blocks. Item 12.10 (Figure 30) was **approved** with the understanding 4 by 4 inch bevelled blocks would be used, and dry and oily surface conditions would be tested.

Item 12.11 (Figure 31) was **approved** with bevelled blocking being **added** to the test. Item 12.12 (Figure 32) was **approved** with the understanding an additional chain configuration would be **added** to the test. In addition, bevelled blocking would be used, and the angle of securement would be 85 degrees at the front and 45 degrees at the back of the coil.

Item 12.13 (Figure 33) was **approved** with the addition of bevelled blocking to the test. Test Item 12.14 (Figure 34) pertaining to two way blocking was **approved** with the understanding bevelled blocking would be added. A revised blocking scheme incorporating six nails on the crosspieces, and the use of a 2 by 4 was **approved** by the Committee. It was suggested a test should be included which would entail using two chains through the eye of the coil, with a third chain over the top of the coil. Committee members indicated the coil tests should provide "good" data to address a number of regulatory problems.

Mr. Mercer provided an overview of the testing to be undertaken under the heading "Other Commodities". It was **agreed** Item 13.2 pertaining to palletized loads would be **approved** with the addition of a test for a banded metal coil (Figure 34.a) In addition it was **agreed** the test matrix would be **amended** to include the following tests;

- |                 |                     |
|-----------------|---------------------|
| i) skid & coil- |                     |
| j) skid & coil  | tiedown             |
| k) skid & coil  | cris-cross tiedown  |
| l) skid & coil  | offset tiedown      |
| m) skid & coil  | chain-cross wrapped |

In addition, it was **agreed** sod secured with webbing would be added to this test protocol. It was **agreed** the test would be expanded to compare the results of the Québec and Ontario webbing requirements for sod.

Item 13.3 (Figure 35) pertaining to heavy steel plates was **approved**. It was clarified the pulls would be both lateral and longitudinal with this test. It was **agreed** a further series of tests using nylon would be undertaken.

The test for Item 13.4 (Figure 36) pertaining to the containment of large boulders was **approved**. It was **agreed** 3 tiedown methods would be tested, and Messrs. Billing and Cann would be in contact with the rock haulers to develop and incorporate the other two methods into the test proposal.

It was **agreed** with respect to Section 13.4/ Coiled Wire and Rod, discretion would be left to the Ontario representatives to develop in conjunction with the manufacturers the most appropriate test for coiled wire and rods. Direction was provided on the size of the rods, blocking, bundling and the strapping to be used for these tests. In addition, the Committee suggested the pre-load tensions on the tie downs be the same as had been used in previous tests and expressed the hope the tests would include both lateral and longitudinal tests on the tilt table. Finally the Committee suggested both dry and slippery surfaces be used for the tests.

Item 13.5 (Figure 37) pertaining to 1 foot diameter pipe was **approved** with the Committee suggesting the diagram should reflect webbing instead of chain. In addition, it was **agreed** 2 by 4 end blocks would be added to the test in the stacked configuration represented in the diagram.

Item 13.6 pertaining to ISO modular containers was **approved**. It was indicated the previous tests results from items 8.5 and 8.6 would be used to design this test. It was **agreed** the test would entail a lateral and longitudinal test with a container on a dry, slippery and teflon surface. In addition it was **agreed** as a minimum the tie downs (webbing and chain) would be secured over the top of the container. The Ontario representatives undertook to verify whether a test using chain at the corners of the container was feasible.

It was suggested there was a need for the Committee to revisit the tests to determine what would be considered a failure in each test. Following discussion it was **agreed** this exercise should only occur after all the data from the various tests had been collected and reviewed by the Committee. It was acknowledged by Committee members the results from the tests would likely point to other research issues.

It was **agreed** Messrs. Billing and Mercer would undertake to prepare the final research proposal based on the decisions which had been taken at the meeting. It was **agreed** the final research proposal would be forwarded to the participants upon completion.

In light of the additions and amendments which had been made to the proposal Mr. Billing indicated a further analysis of the funding requirements would be undertaken. It was suggested the testing had significantly expanded in scope as a result of the amendments which had been made to the proposal. It was **agreed** Mr. Billing would undertake further review of the funding and material requirements for the program.

#### 7. **Conduct of the Research**

Mr. Billing indicated an opportunity should be provided to all participants to indicate what level of support they could provide to the project. It was noted the support could be funds, equipment, materials or expertise. Mr. Billing indicated that following this meeting a detailed test proposal would be assembled and he would be in contact with the groups or organizations which could supply the hardware and materials. The ability to secure the use of a crane was identified as a primary requirement which would affect the overall cost of the research program.

Mr. Billing indicated the preliminary statements of support by the participants would be used in relation to costing the overall research proposal. It was acknowledged funding support at this point would still be conditional in a number of instances as approval from their respective organizations would have to be sought by the participants. Mr. Billing urged the participants to firm up as quickly as possible their funding commitments as these would be necessary in order to finalize the test proposal which would be forwarded to the CCMTA Board of Directors.

Mr. Billing indicated Ontario was prepared to provide personnel and equipment to conduct the tests indicated in the research project. This contribution to the program included use of the MTO test facility, instrumentation, and the services of the test engineers throughout the test project. The Ontario contribution was estimated at nearly 150K. It was noted Ontario had no funding which could be directed to the project.

Mr. Vespa indicated Transport Canada can provide funding for the equipment and test rigs. Further discussions would occur within Transport Canada and between Transport Canada and MTO to determine the exact amount which could be provided to the project and over what time period.

Mr. Woodroffe of the NRC indicated his organization was prepared to conduct part of the work identified in the proposal. A commitment was made to make equipment and facilities available for elements of the project. Mr. Woodroffe indicated an agreement would have to be developed to ensure that this portion of the project is funded. Mr. Woodroffe undertook to further discuss the contribution with Mr. Billing.

Mr. Schmidt of the FHWA indicated the U.S. was prepared to contribute \$50K to the cost of the research project in this fiscal year.

Mr. Desrosiers indicated the MTQ contribution to the project would be to undertake the costs associated with conducting the testing for dressed lumber and bricks. Québec indicated this contribution would include equipment and personnel to undertake this portion of the research and was estimated to be in the 100K range.

Mr. Palmer of New Brunswick indicated his province was prepared to participate in the program, and there was the possibility that funding could be made available for the project.

Mr. Oldridge of British Columbia indicated he would be prepared to take a request for funding back to his province to assist in the cost of the research. It was suggested a funding proposal should be developed to allow contributions from each province.

Mr. Bedingfield indicated Alberta could not make a funding commitment to the project. A contribution with respect to attendance and expertise in the deliberations of this group was all that could be provided at this point.

Mr. Bedingfield indicated he would also be prepared to take a specific funding request back to his province. It was suggested if a funding request was to be made to each Canadian jurisdiction it should be done on a per capita basis.

Mr. Ford of Newfoundland indicated his province would probably be willing to contribute his time and expertise to the project. If a funding request was to be made to all jurisdictions the per capita basis was favoured. Mr. Ford indicated he was prepared to take a request for funding back to his province on this basis.

Mr. Martell of Nova Scotia indicated he would be prepared to take a specific funding request back to his province on the basis of the research proposal which had been developed at this meeting. Like the previous participants he indicated finding funding would be difficult but perhaps not impossible.

M. Giguere and Mme. Gignac indicated the SAAQ would participate and assist the MTQ in undertaking the research into dressed lumber and bricks. It was noted there may be a slight possibility for additional funding assistance at the end of the year if this was required.

Mr. Pitts from Algoma indicated funding was not available but the company should be in a position to provide some of the materials required in the testing.

The representatives from Stelco indicated they would try to assist in the project by supplying materials. The availability of a large crane in one of their facilities was mentioned.

Mr. Lucas indicated the Crosby Group had a 55 ton fatigue device in Tulsa which they would be prepared to make available if there was a way to work this into the research project. Mr. Lucas suggested a list of webbing, chains, winches etc. be compiled and an effort would be made to provide some of this material.

Mr. Tucker indicated the equipment association was supportive of the research project but at the present time he could not make a commitment on their behalf. He offered to take any funding or material request to an upcoming meeting of the Association.

Mr. Camball of Manac Trailers indicated his company could not make a funding commitment but anticipated the engineers in Manac would be able to provide their support and assistance in the project. Mr. Camball indicated there was the possibility the company could build and provide some of the test materials.

Mr. Moore from Alcan indicated they might be able to provide some of the test materials at their expense. He undertook to take a request for funding to the Aluminum industry and suggested the services of a consultant might be loaned to the project. It was suggested an effort should be made to bring the rubber industry into the project.

Mr. Strawhorn outlined the ATA's positions with respect to the load securement issue noting the research was both timely and necessary. He offered to see if he could get the specialized carriers and rigging industry in the U.S. involved in the project. Mr. Strawhorn indicated funding could be available from the ATA and he would further discuss this matter with Mr. Billing in the coming weeks.

Mr. Golas indicated it was unlikely CVSA could make a direct funding commitment to the project but was prepared to lend their technical expertise and would attempt to secure materials for the project.

Mr. Adair indicated the New York State Police would probably not be able to provide funding to undertake the research but would be prepared to participate in the analysis and deliberations of the Committee. Mr. Adair indicated there was a need to ensure that the product of this effort can be enforced by the officers on the road way.

Mr. Billing thanked the participants for their statements of support and indicated he would be following up with many of them in the next week.

The Secretariat indicated the management portion of the proposal would have to indicate as explicitly as possible how the project would be coordinated, managed, and administered over the next two years. The respective roles which would be played by each of the funding partners, the Task Force on Load Security, and the CCMTA Secretariat would have to be identified in the final proposal which went to the CCMTA Board for review and approval. It was noted the Secretariat could provide and had assumed coordinating and administration roles in many similar projects in the past.

It was **agreed** a management group consisting of the funding partners would be struck to oversee the project. It was **agreed** this group should be provided decision authority with respect to the budget and overall management of the project. It was **agreed** by the initial funding partners a series of bi-lateral agreements would be signed with Ontario to undertake the research. It was **agreed** all participants would contact Mr. Billing within the next week to firm up their offers of support and commitment to the project.

The Secretariat indicated the proposal to the CCMTA Board should reflect the preceding decisions and they would need to be cast as recommendations to the Board of Directors. In response to inquiries the Secretariat indicated past experience with providing administrative services only to a group of this size would be in the order of \$20,000. A brief description of these services was provided. It was noted the Committee should determine how and from what source these costs should be covered and make a recommendation to the CCMTA Board. If a more significant coordinating and administration role is anticipated for the Secretariat this should be stated as clearly as possible in the proposal. This would allow the Board to make a determination on the allocation of Secretariat resources and services.

It was **agreed** Mr. Billing would review the management portion of the proposal and would develop a series of recommendations which would outline how the project would be coordinated, managed, and administered over the next two years. It was **agreed** the final proposal would reflect the discussion undertaken at this meeting and the follow up discussions with the initial funding partners for the project.

**8. Committee Role**

A general discussion of the role and mandate of the Load Security Research Technical Advisory Committee, the Task Force on Load Security and the CCMTA Secretariat ensued. It was **agreed** as various elements of the research became completed status reports should be forwarded to the Load Security Research Technical Committee and the Task Force on Load Security for review.

It was **agreed** the technical committee would assemble following completion of all the testing to discuss the results and to craft the report that would be provided to the Task Force on Load Security. It was **agreed** the Task Force on Load Security would work with the results to generate a new standard.

Mr. Covello indicated it was possible the Task Force on Load Security would meet to work on other issues relative to load security pending the results of the research. Mr. Covello indicated the Task Force on Load Security had a mandate to consult with all interested parties and welcomed the participation of members of the technical committee on his Task Force.

9. **Other Business**

A brief discussion ensued on the prospect of some research being undertaken by the state of Oregon relating to the securement of heavy construction equipment. It was **agreed** an attempt would be made to investigate current practices since it was believed the Oregon research would not proceed. It was acknowledged this was an area for further monitoring and possibly research.

Mr. Ryan indicated the New York DOT in conjunction with FHWA would be undertaking a series of safety blitzes on load security in mid-September. It was noted the effort would be both an information and enforcement exercise to generate data on what types of information drivers require in order to comply with load securement provisions. It was noted a survey would be prepared. It was suggested if any of the participants wanted any particular areas covered by the survey they should contact either Mr. Ryan or Mr. Schmidt of the FHWA.

No other business was identified by the participants. The Chair on behalf of the Committee thanked Messrs. Billing, Cann, and Mercer for their work in preparing the test proposal. The Chair thanked all of the participants for their efforts over the last two days in relation to the research proposal.

It was **agreed** discretion would be left to the Chair to convene the next meeting of the Committee. The meeting was **adjourned**.

APPENDIX A



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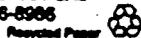
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