

REGION OF OTTAWA-CARLETON
RÉGION D'OTTAWA-CARLETON

REPORT
RAPPORT

Our File/N/Réf. 50 02-00-0026
Your File/V/Réf.

DATE 27 June 2000

TO/DEST. Co-ordinator Transportation Committee

FROM/EXP. Director Mobility Services and Corporate Fleet Services
 Environment and Transportation Department

SUBJECT/OBJET **TRUCK INDUSTRY - HOURS OF WORK**

DEPARTMENTAL RECOMMENDATIONS

That the Transportation Committee recommend Council approve:

- 1. That Transport Canada review all measures possible to create the safest combination of work and rest hours for truck drivers in Canada;**
- 2. That Transport Canada review the regulations established in the United States to determine if they would provide a better balance of work and rest hours for truck drivers in Canada;**
- 3. That as a minimum, Transport Canada ensure that all truck drivers in Canada be required to have a full 48 hours off prior to “resetting the hours of work clock”, and;**
- 4. That as a minimum, Transport Canada ensure that all truck drivers in Canada be required to have at least 10 hours of continuous off-duty time per day.**

INTRODUCTION

There has been considerable discussion regarding the maximum hours of work that truck drivers are allowed to operate. Transport Canada has proposed changes to the current regulations stating the new regulations will “result in a reduced workday”. An organization called Canadians for Responsible and Safe Highways (CRASH) has been critical of the proposed changes stating “a 35 to 40% increase in weekly workload” would result.

BACKGROUND

At the 17 May Transportation Committee, staff were asked to investigate and report on the following:

1. To explain the apparent divergent points of view regarding maximum work hours between Transport Canada and CRASH; and,
2. To advise if opportunities exist for Committee input to the hours-of-work regulations.

DISCUSSION

Attached as Annex A is a detailed comparison of the documented points of view of CRASH and Transport Canada. The analysis is divided into three parts: current work cycle limits, proposed work cycle limits, and “science and research”. In each case the position of each organization is stated followed by an analysis of the differences.

The findings of this investigation reveal the following.

1. Current Work Cycle Limits

Much of the difference in perspective stems from the assumptions regarding the current maximum hours of work. The current regulations are complex with several schedules and exceptions. CRASH has established its position on one cycle, that is, 60 hours within a week. Transport Canada has based its calculations on the current legal maximums which a driver could work using the various schedules and exceptions. This results in more rapid accumulation of driving hours yielding up to 60 hours in four days; 70 hours in five days; 104 hours in seven days; 120 hours in eight days, or 160 hours in 14 days. Due to these different baselines, the “degree of improvement” of new regulations varies considerably.

2. Proposed Work Cycle Limits

Annex A shows the proposed work cycles table which can be compared to the table of current work cycles. Changes to the regulations include:

- Increasing the mandatory off-duty time from 8 to 10 hours (exceptions exist);
- Changing the work-cycle from a 23 hour clock (15 hours on-duty, 8 hours off-duty) to a 24 hour clock (14 hours on-duty, 10 hours off-duty); and,
- Allowing a “reset” of the on-duty clock after a 36 hour rest period.

3. Science and Research

There appears to be agreement between Transport Canada and CRASH on the issue of driver fatigue. Both seem to agree that fewer hours of work are desirable. Transport Canada reports that a driver gets only about five hours of sleep during an eight hour break largely due to time spent eating, washing and relaxing. Transport Canada states that seven to eight hours of sleep is required by most people to recover from fatigue.

4. Input to Process

Based on the most recent information from Transport Canada, a draft hours-of-work standard (Standard #9 of the National Safety Code) will be circulated this summer to provinces and territories. Each province will then determine the manner in which consultation on the standard will occur. Stakeholder input to the draft standard has been implemented through the Canadian Council of Motor Transport Administrators (CCMTA). It is understood that once the standard has been finalized, it will become a future agenda item for the semi-annual meeting of the Council of Ministers of Transportation.

COMMENTS

In reviewing the proposed regulations, the following observations are made regarding the potential to improve the regulation.

1. Two-Night Reset

A 36 hour reset period may include only one night of rest. An improvement may be to require two full nights of rest prior to resetting the hour-of-work clock.

2. 10 Hour Off-Duty Exception

The proposed regulation allows for the use of up to two hours of the 10 hour off-duty cycle to be used for short rests throughout the day. This could effectively result in an eight hour off-duty period which could equate to only five hours of sleep. There is an advantage in allowing drivers to take short breaks; however, restricting the amount of time permitted for breaks and forcing a longer off-duty cycle should result in longer sleep periods. An improvement may be to restrict the short rest to one hour and require 9 or 10 hours of continuous off-duty time.

Further, Transport Canada should review regulations in the United States to determine if U. S. regulations provide a safer combination of work and rest hours for truck drivers.

*Approved by
Doug Brousseau*

ANNEX A

TRUCK DRIVER HOURS OF WORK REGULATIONS
POINT OF VIEW COMPARISON
CRASH vs TRANSPORT CANADA

Overview of Current Regulation

Shift: Maximum 13 hours driving; Total 15 hours working

Cycles: 60 hours/7 days
 70 hours/8 days
 120 hours/14 days

CRASH Perspective of Present Hours of Service Usage

60 hours/7 day chart respective of 7 day non-abusive usage of system

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	15	15	15	15	15	15	18	
On Duty	9	9	9	9	9	9	6	
Subtotal	9	18	27	36	45	54	60	60 hrs

60 hours/7 day chart respective of 6 day non-abusive usage of system

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	14	14	14	14	14	14		
On Duty	10	10	10	10	10	10	0	
Subtotal	10	20	30	40	50	60		60 hrs

60 hours/7 day chart respective of 5 day non-abusive usage of system

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	12	12	12	12	12	0	0	
On Duty	12	12	12	12	12	0		
Subtotal	12	24	36	48	60			60 hrs

Transport Canada Perspective of Present Hours of Service Usage

60 hours/7 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	8	8	8	12				
On Duty	16	16	16	12				
Subtotal	16	32	48	60				60 hrs

70 hours/8 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	8	8	8	8	22			
On Duty	16	16	16	16	2			
Subtotal	16	32	48	64	70			70 hrs

120 hours/14 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Off Duty	8	8	8	12	12	8	8
On Duty	16	16	16	12	12	16	16
Subtotal	16	32	48	60	72	88	104

continued

	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Total
Off Duty	8	24	24	24	12	12	8	
On Duty	16	0	0	0	12	12	16	
Subtotal	120	120	120	120	132	144	160	160

CRASH Report

All current work cycle limits average 60 hours per week. The proposals now on the table that trucking interests support would see a cap on total hours raised to either 82 or 84 hours for every week, that is a 35 to 40% increase in weekly workload.

Transport Canada

In Canada, regulations for extra-provincial carriers are based on a system which utilizes three distinct cycles. A driver is in compliance if, at any point in time, he/she can demonstrate they are in accordance with any one of the cycles; 60 hours in 7 days, 70 hours in 8 days, and 120 hours in 14 days. To further complicate the process, switching between cycles is permitted at any time and as often as is practicable or advantageous to the driver.

The regime may not be what appears at first glance. For example, while the 60 hours/7 day rule suggests that the maximum time is reached over a 7 day period, in fact the driver can reach the 60th hour in only 3½ days by following a continuous cycle of on-duty and off-duty. Similarly, the 70 hour/8 day schedule allows the driver to reach the 70th hour in about 4½ days. An even more compressed schedule is possible by employing the “rest reduction” rule which permits a reduction of the 8 hour off-duty period by four hours once in a 7 day period for trucks, and two such reductions per 7 days by bus operators.

The 120 hours/14 day cycle also appears, on the surface, to be benign. It allows an average of 60 hours per week over a two-week period. However, should a driver wish to compress the schedule, the following possibilities can result:

- 104 hours on-duty in 7 days; 108 hours with a rest reduction;
- 120 hours in 8 days;
- 160 hours in 14 days by accumulating off-duty after 120 hours until the driver can switch to either the 7 or 8 day cycle as shown in Table 1.

Synopsis

Cycles as designed for typical usage could be calculated as: - 9 hours per day x 7 days = 63 hours or 12 hours per day x 5 days = 60 hours. For a typical operation, these types of figures would seem appropriate. If abused or in an improperly controlled environment, abuse up to the amounts indicated above could be realized. For a higher intensity or highway truck type operation, it is presumed the intent would be to operate the vehicle as consistently as possible. In this situation one can see where the latter figures from Transport Canada could be more relevant. With the ability of the driver to alternate from cycle to cycle on a daily basis, the figures as quoted in the Transport Canada report could be realized.

Overview - Proposed Regulations

Shift: Maximum 14 hours driving; Total 14 hours working

Cycles: 70 hours/7 days; 36 hour reset
 120 hours/14 days; 72 hour reset (temporary) intent to eliminate
 84 hours/7 days; 36 hour reset (available only to companies with proven safety record)

70 hours/7 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	10	10	10	10	10		12	
On Duty	14	14	14	14	14	0	12	
Subtotal	14	28	42	56	70	reset	12	84 hrs

120 hours/14 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Off Duty	10	10	10	10	24	10	10
On Duty	14	14	14	14	0	14	14
Subtotal	14	28	42	56	56	70	84

continued

	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Total
Off Duty	10	10	16	24	24	10	10	
On Duty	14	14	8	0	0	14	14	
Subtotal	98	112	120	0	reset	14	28	148

84 hours/7 day chart respective of operation at maximum usage

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Off Duty	10	10	10	10	10	10	24	
On Duty	14	14	14	14	14	14	0	
Subtotal	14	28	42	56	70	84	0	84

CRASH Report

All current work cycle limits average 60 hours per week. The proposals now on the table that trucking interests support would see a cap on total hours raised to either 82 or 84 hours for every week, that is a 35 to 40% increase in weekly workload.

Transport Canada

Based upon the discussions, the following represents the proposed changes to the basic hours of service regime in Canada.

- The current minimum off-duty period of 8 hours be increased to 10 hours over a 24 hour period.
- The 10 hour off-duty period be taken in no less than 8 consecutive hours with the additional 2 hours taken in increments of no less than ½ hour.
- The daily maximum on-duty time be reduced from 16 to 14 hours with no distinction between on-duty and driving time; reduction of 12.5%.
- The options to reduce the off-duty time from 8 hours to 4 hours (once in 7 days for truck; twice for bus) be eliminated.
- The minimum rest periods in a sleeper berth be increased from 2 hours to 4 hours in co-driver situations. (Note: The required basic daily 8 hour off-duty period can be split into two periods of 4 hours minimum).
- Provisions to extend the hours (driving and on-duty) under limited conditions remain unchanged.
- Averaging of on-duty and off-duty time be permitted over a 48 hour period (the daily off-duty time of 10 hours can be reduced to 8 hours with the remaining 2 hours added to later that day or the subsequent day; over a 48 hour period, the maximum on-duty time would be 28 hours and the minimum off-duty time would be 20 hours).
- Three cycles (60/7, 70/8, 120/14) be reduced to two:
 - ◆ 70 hour basic work cycle; a voluntary 36 hour rest/reset provision (can be taken at any point) after which the “clock” is reset;
 - ◆ A modified 120 hour/14 day cycle, which contains a voluntary 72 hour rest/reset provision, would remain in place until replaced by an optional distribution cycle to be developed. A mandatory 24 hour off-duty period must commence between the 50th and 70th hour.

- A minimum 24 hour off-duty period must be taken at least once every 14 days, regardless of the cycle.
- A working group be formed to develop the details of an optional cycle with a degree of urgency attached to their mandate.
- Switching of cycles would only be permitted after a minimum (rest/reset period) of off-duty time is taken which is 36 hours in the 70 hour/7 day cycle or 72 hours in the 120 hour/14 day cycle.

Synopsis

Daily shift hours reduction should allow more opportunity to rest. The increased allowable driving time would be consumed in most operations by working tasks.

The optional use of up to two hours down time for “power naps” or short rests would be beneficial during lulls in the body clock. The allowance of shifting these two hours to any time within 48 hours also allows greater flexibility to deal with the possible cumulative effects of sleep loss. The problem arises with the possibility of misuse and confusion for some drivers. This may also cause some confusion among enforcement officials when auditing log books.

The elimination of the “once in 7 days” hours reduction from 8 to 4 will not likely have a dramatic effect. The allowable driving extension will cover any unforeseen circumstances.

Replacement of the present cycles with the 70 hours/7 day cycle allows for greater hours available distributed over a 7 day window. However it also requires at least one full 24 hour period off every 14 days and allows less work time each day. If pushed to maximum, it takes 5 days to reach the 70 hour maximum. The reset prompts the driver to rest for 36 hours but then allows the driver to push the limits back to maximum right away. The result could be a negative effect. The driver could work as much as 164 hours in a two week period. Obviously this would be an extreme, absolute worse case scenario but it is possible.

The 120 hours/14 day cycle remains basically the same. The daily limits are reduced but the potential to work up to 120 hours in 10 days with the required days off and 148 hours in 14 days with the required restart is present.

The 84 hours/7 day cycle has been discussed but is still not proposed. It would operate similar to the 70 hour cycle with the exception of allowing the driver to work an additional 14 hours before a reset. The provision of only being available to companies with proven safety records and training programs must be a requirement for this cycle. In this scenario the driver could work as much as 168 hours in 14 days.

In any of the above cycles, under typical working conditions i.e. 8 to 10 hours per day, there is ample opportunity for rest and *cumulative* fatigue should not be a factor. The reset is a motivator for the driver to shut down for at least 36 hours to catch up on missed rest. Abuse of the reset allows the driver to condense a large quantity of hours in a short period of time.

Switching through various cycles is discouraged, making it simpler for drivers, company auditing and enforcement personnel.

Team type operations (co-drivers) should benefit from rest periods which promote a more consistent sleep pattern by requiring the smallest sleep period to be four hours. The other rest period would have to be four hours with the option of using the remaining two hours as off-duty for eating or relaxing.

For single driver operations with sleeper equipped trucks, removing the use of the split sleeper rest allowance prompts the driver to get a full 8 hours sleep as well as use the short rest periods throughout the day.

Science and Research

CRASH Report

What does the “science” really say about truck driver work and fatigue? Transport Canada posed the above question to a group of scientists with expertise in sleep and fatigue issues. These experts reported in September 1998 (Ibid.) their understanding of what research - the “science” has to say about truck driver work hours and fatigue is clearly not what trucking management wants to hear.

The expert panel has expressed the following positions:

- Scientific literature does not support any increase of current (weekly) limits.
- (84 hour) drivers have inadequate time to sleep and recover.
- (An 84 hour work week) would produce a fatigued driver who would be a danger to him/herself and to others.

Transport Canada

During the past decade, and particularly recently, considerable effort has been expended in the scientific community to investigate the issue of fatigue and its effects of commercial vehicle drivers.

At this time, conclusive scientific results most pertinent to the cycle/caps issue are not readily available. The Canada/U.S. Driver and Alertness Fatigue Study was perhaps the largest effort ever undertaken in a real-world setting and provided some interesting observations. While the study conclusions were that time of day was a more important factor than time on task, the fact that large individual differences existed among the study participants is the underlying issue.

People react differently on a day-to-day basis and between subjects. Furthermore, research has shown that sleep is the only means to combat the effects of fatigue. While scientists agree that the amount of sleep necessary can vary between individuals, they also feel that between 7 and 8 hours of sleep is required by most individuals to recover from significant fatigue.

The above research showed that drivers were obtaining a little over 5 hours of sleep within an 8 hour off-duty period; this also has been observed in other studies involving other professions. What is interesting to note is that the U.S. drivers in the study, who were afforded about 14 hours off-duty, received only about 15 minutes more sleep than their Canadian counterparts. Therefore, if obtaining the required amount of sleep is not given priority, little improvement, regardless of regulatory change, is likely to result. Regulating the amount of sleep is not a viable solution; however, education in this area is clearly warranted. What is important are the lessons that have been learned as a result of the research and how can these be translated into responsible regulatory action.

Synopsis

There is a consensus that fatigue levels increase with the amount of work performed. It seems the issues at debate are how best to protect the truck driver and the general public from truck driver fatigue. The reduced shift lengths combined with increased off-duty time should be an asset.

For local or short distance companies, these changes should have no detrimental effect to the industry. The 70 hour cycle in 7 days would result in a 9 hour work day. The proposed changes would also require the driver to get 24 continuous hours off every 14 days.

For highway drivers or any driver who wishes to abuse the system, there may be a tendency to utilize the 36 hour reset. In this case, the reset is a forced shutdown which would give the driver an opportunity to rest and recover from the cumulative effect of fatigue. By giving the driver the incentive to take rest periods of up to two hours per day, there should be less tendency to keep going even when tired.

The options seem to be all in place to motivate the professional driver to rest when needed. However, there is the opportunity to work/drive up to 164 hours within a 14 day period while operating legally on the 70 hour cycle and utilizing the reset. Although this is not much more than can be accomplished with the present 120 hours/14 day cycle (maximum of 160 hours), it also does not reflect a significant improvement in the new system in total hours available to work.

Critical Analysis

Overall the proposed changes have the potential of ensuring adequate rest time is available. By using measures as reduced working hours per shift, increasing required off-duty time, implementing mandatory 24 hour breaks, elimination of compressed off-duty allowances, and changes to requirements for sleeper equipped trucks, one can see potential benefits to the proposed regulation changes. Unfortunately there is still the option to operate a vehicle up to 164 hours within a 14 day period. Although the driver is required to take a 36 hour rest to reset, there is the ability to then work 70 hours within 5 days. Although this is slightly better than the present system, it is more than the requirement of most work forces.

The calculating of hours for the purpose of recording, auditing or monitoring should be easier than the present system. This would allow for closer scrutiny by company officials and enforcement personnel.