BRITISH COLUMBIA

Ministry of Forests

Office of the Minister

MEMORANDUM

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To: Interior Regional Managers

From: The Honourable Gordon Wilson
Minister of Forests

Re: Amendment No. 6 to the *Interior Appraisal Manual*

I hereby approve Amendment No. 6 to the *Interior Appraisal Manual*, and attach a copy for your use. The following sections have been amended.

Section 2.5.1	Method of Transportation to be Used in Determining Point of Appraisal – wording change to be consistent with Section 4.5.1(1).
Section 4.1	Cost Estimates – wording change to be consistent with Section 4.5.1(1).
Section 4.5.1(1)	Truck Haul Variables – wording change to enable log transportation cycle time to be calculated to the licensee's normal point of appraisal in the timber supply area that the licensee is being asked to move from.

Gordon F. D. Wilson
Minister

Attachments

pc: Bill Howard, Director, Revenue Branch

All Subscribers, *Interior Appraisal Manual*

BRITISH COLUMBIA Ministry of Forests

MANUAL REVISION TRANSMITTAL

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Interior Appraisal Manual

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PUBLICATIONS CO-ORDINATOR

Judy Laton
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AUTHORIZATION (Name, Title)

W. Howard
Director, Revenue Branch

Please make the following changes to your copy of the above Ministry manual. Please insert the following specified pages and **file this notice** immediately after the Amendments Tab.

ACTION (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT TABLE OF CONTENTS	PAGE(S)	COMMENTS
REMOVE	Chapter 2	2-11, and 2-12	
INSERT	Chapter 2	2-11, and 2-12	
REMOVE	Chapter 4	4-1, 4-2, 4-37 to 4-40	
INSERT	Chapter 4	4-1, 4-2, 4-37 to 4-40	

2.5 Point of Appraisal

The appraiser must select the point of appraisal, from the list below, which will produce the least total harvesting and delivery cost estimate for the cutting authority area. All species, qualities and sizes of timber must be appraised to a single point of appraisal. The appraiser must estimate the cost of transporting timber to the sawmill which is nearest the point of appraisal and produces the least total harvesting and delivery cost estimate. The appraiser must then assume manufacturing costs and average market values for the zone relative to that point of appraisal.

A sawmill is defined as a conversion facility capable of producing lumber and chips, and includes the log sorting/storage areas and satellite mill yards if applicable. A sawmill does not have to be physically capable of producing lumber and chips from all the wood appraised to that site. A sawmill is considered capable of producing lumber and chips unless it has been damaged by fire or a destructive force of nature. A damaged sawmill will not be considered a location at a point of appraisal if it has not been repaired within three months of the damage. It will be reconsidered as a location at a point of appraisal on the first day of the next stumpage quarter once it is capable of producing lumber and chips again.

The logs are deemed to have reached the point of appraisal once they have entered the site, commonly the weight scale, upon which the sawmill is located. All further log handling costs except scaling (see Section 4.8) are deemed to be part of the manufacturing cost estimate.

Table 2-1 Points of Appraisal

Northern Interior (Zone 5, 15, 25 & 35)			
Bear Lake	Fort St. James	Mackenzie	Smithers
Burns Lake	Fraser Lake	Prince George	Strathnaver
Clear Lake	Houston	Quesnel	Upper Fraser
Engen	Isle Pierre		Vanderhoof

Skeena (Zone 6, 16, 25 & 36)			
Terrace	Carnaby	Hazelton	Kitwanga

Southern Interior (Zone 7, 17, 25 & 37)			
Adams Lake	Galloway	Merritt	Thrums
Armstrong	Grand Forks	Midway	Valemount
Canal Flats	Kamloops	Okanagan Falls	Vavenby
Canoe	Kelowna	Park Siding	Westbank
Castlegar	Lavington	Princeton	Ymir
Craigellachie	Louis Creek	Radium	
Creston	Lumby	Revelstoke	
Elko	McBride	Slocan	

South Cariboo (Zone 8, 18, 25 & 38)					
100 Mile House	Chasm	Lytton	Squamish	Williams Lake	Boston Bar

Fort Nelson - Peace (Zone 9, 19 & 25)			
Chetwynd	Fort Nelson	Fort St. John	Taylor

2.5.1 Method of Transportation to be Used in Determining Point of Appraisal

The estimate of transportation costs for a cutting authority area must be determined by using the criteria for determining the transportation cost estimate as set out in this manual for the method of transportation referred in this manual to the point of appraisal that will produce the least total harvesting and transportation cost estimate unless:

a. that particular method of transportation is not permitted by the cutting authority, or

b. as provided in Section 4.5.1(1).

In considering whether or not a particular method of transportation is not permitted by the cutting authority, the Appraisal Coordinator must not consider, nor take into account, nor have regard for:

1. Any destination referred to in the cutting authority.

2. Any enactment.

3. Any document other than the cutting authority.

4. Any other fact.

Operating Cost Estimation 4

The operating cost is the sum of the trended total logging cost estimate, the trended basic silviculture cost estimate and the manufacturing cost estimate as detailed in this chapter. The cost estimates in this chapter are applicable to all cutting authorities unless superseded by the procedures outlined in Section 2.1.

4.1 Cost Estimates

The Appraisal Coordinator must estimate harvesting and transportation costs for a cutting authority area using the information that the Appraisal Coordinator has at the time the estimate is made in a manner that will produce the least total harvesting and transportation cost estimate.

The estimate of harvesting costs must be determined by using the criteria for determining the harvesting cost estimates as set out in this manual for the method of harvesting referred to in this manual which will produce the least total harvesting and transportation cost estimate unless that particular method of harvesting is not permitted by the cutting authority.

The estimate of transportation costs must be determined by using the criteria for determining the transportation cost estimates as set out in this manual for the method of transportation referred to in this manual to the point of appraisal which will produce the least total harvesting and transportation cost estimate unless:

a. that particular method of transportation is not permitted by the cutting authority, or

b. as provided in Section 4.5.1(1).

In considering whether or not a particular method of harvesting or transportation is not permitted by the cutting authority, the Appraisal Coordinator must not consider, nor take into account, nor have regard for:

1. Any destination referred to in the cutting authority.
2. Any enactment.
3. Any document other than the cutting authority.
4. Any other fact.

Once the least cost point of appraisal has been established, the cost estimate of manufacturing for that point, as specified in Section 4.11, is applied.

The phase cost estimating equations and tables in this manual were derived from a survey of logging and lumber manufacturing operations in the interior. The survey includes both employee and contractor operations. The survey collects actual costs to the licensee (including wages, benefits, overtime, depreciation, fuel, supplies, repair and maintenance, moving assistance, applicable licences, insurance, etc.) from a representative sample of interior operations. Contract costs (including contractor profit and risk margins, overhead, crew transportation, etc.) are included.

The phase cost estimates are complete and reflect average conditions, operating practices, and phase accounting allocations experienced in the survey data. Additions and subtractions to phase cost estimating equations and tables to reflect specific operating conditions are not permitted. The cost estimates have an effective cost base date of July 1, 1998.

The variables for each required harvesting method must be based on a cruise compilation of only those plots located within the area to be harvested by the method.

The additive for damaged timber is also determined for each applicable method.

The final prorated tree-to-truck cost estimate is determined according to the following equation where each component is rounded to the nearest cent before totalling:

$$\$/m^3 = \frac{({}^{Cost}\text{Heli})({}^{V}\text{Heli})}{(\text{TNCV})} + \frac{({}^{Cost}\text{Horse})({}^{V}\text{Horse})}{(\text{TNCV})} + \frac{({}^{Cost}\text{OC(C)})({}^{V}\text{OC(C)})}{(\text{TNCV})} +$$

$$\frac{({}^{Cost}\text{OC(P)})({}^{V}\text{OC(P)})}{(\text{TNCV})} + \frac{({}^{Cost}\text{GS(C)})({}^{V}\text{GS(C)})}{(\text{TNCV})} + \frac{({}^{Cost}\text{GS(P)})({}^{V}\text{GS(P)})}{(\text{TNCV})} + \frac{({}^{Cost}\text{SK})({}^{V}\text{SK})}{(\text{TNCV})}$$

Where:

Cost	=	cost estimate ($/m3) including any damaged timber additive
V	=	volume (m3) required to be logged by each system
Heli	=	helicopter logging
Horse	=	horse logging
GS (C)	=	ground skidding (clear cut)
GS (P)	=	ground skidding (partial cut)
OC(C)	=	overhead cable logging (clear cut)
OC(P)	=	overhead cable logging (partial cut)
SK	=	skyline logging
TNCV	=	total net cruise volume (m^3)

4.5 Log Transportation

The log transportation phase covers all aspects of log movement from the place of initial loading to the point of appraisal, including truck haul, rail, water and other specialized transportation. The use of Section 4.5.1, 1., c. does not affect any other provision that requires the use of the least cost point of appraisal.

4.5.1 Truck Haul Variables

1. Cycle Time:

   For appraisal purposes, weighted average Cycle Time (CT) is the estimated time in hours (rounded to the nearest 0.1 hour) for transporting logs from the centre of a cutting authority area to:

   a. the least cost point of appraisal,

   b. the appraisal place of unloading in the case of water or rail transport, or

   c. if the Minister of Forests has given approval for the temporary transfer of cutting rights from one timber supply area to another timber supply area in order to control a bark beetle infestation, the place that would have been the point of appraisal if the timber had been harvested in the timber supply area from which the cutting rights have been transferred.

2. To determine weighted average cycle time:

   a. establish the geographical centre point of each cutblock and project this point to the nearest road for measurement purposes,

   b. from this centre point, determine the cycle time to the nearest junction serving all cutblocks,

   c. weight the cycle time for each cutblock by the volume on the cutblock and determine the average weighted cycle time to the junction. If the cutblock volume is not available, the cutblock area is used, and

   d. determine the cycle time from the junction to:

      i. the least cost point of appraisal,

      ii. the appraisal place of unloading, or

      iii. if the Minister of Forests has given approval for the temporary transfer of cutting rights from one timber supply area to another timber supply area in order to control a bark beetle infestation, the place that would have been the point of appraisal if the timber had been harvested in the timber supply area from which the cutting rights have been transferred.

   and add this to the average weighted cycle time from 'c.' above.

The cycle consists of loading, hauling, weighing, unloading, return time, and unavoidable delays. The cycle time will normally be determined by taking into consideration all the factors that may affect it: distance, expected rate of speed, necessary delays, expected standard of roads and their maintenance, traffic density, and seasonal weather conditions.

> In many cases standard cycle time schedules from specific road junctions to the point of appraisal have been developed and should be used (Sector times).

Unavoidable delays are periods when the truck is on the job but not operating due to unpredictable delays such as; tightening binder chains, minor repairs made by driver, checking and adjusting brakes, minor delays prior to loading and unloading, refuelling, etc. Unavoidable delay time does not include any breakdown which requires shop repair, the services of a skilled mechanic, or a spilled load of logs. The time for load, unload and unavoidable delay is set at 75 minutes for cable yarding systems (see Section 4.4.3 (4)) and 60 minutes for all other systems (see Section 4.4.3 (1), (2), & (3)).

3. Haul Method

Cost estimates do not recognize different types of logging trucks. The estimate is based upon the possible haul method, either highway or off-highway and not specifically on the licensee's particular method.

Highway hauling is assumed when loaded logging trucks must travel in part over roads administered under the *Highway Act*, without truck-to-truck transfer, to the point of appraisal, or on roads administered under the *Highway (Industrial) Act* where prolonged known road restrictions prevent the use of oversize loads, or in all instances where the volume per tree is less than 0.20 m^3.

Off-highway hauling is assumed when loaded logging trucks can travel over roads administered under the *Highway (Industrial) Act* to the point of appraisal, or to a recognized reload. Where prolonged known restrictions (e.g., bridge load limit, narrow road, through rock cut, WCB Regulations, etc.) prevent the use of oversize loads, highway haul is assumed.

4.5.2 Truck Haul Cost Estimates

4.5.2.1 Primary Haul

The primary truck haul cost estimate is determined from the following equation.

1. Highway Haul

   For all highway haul equations if the CT is greater than 0 then the minimum is $0.52/m^3. If CT = 0 then $/m^3 = 0.

   $/m^3 = CONSTANT + (2.01 * CT) - (0.86 * CE%/100) + (2.69 * HE%/100) + (2.02 * LA%/100) - (0.68 * SP%/100)

   Where:

REGION	:	Kamloops	Nelson	Pr. Rupert	Other
CONSTANT	=	- 0.63	- 0.03	0.37	- 0.25

2. Off-Highway Haul

   For all off-highway haul equations if CT is greater than 0 then the minimum is $1.44/m^3. If CT = 0 then $/m^3 = 0.

   $/m^3 = CONSTANT + (1.45 * CT) + (0.93 * HE%/100)

   Where:

REGION	:	Cariboo	Kamloops	Nelson	Other
CONSTANT	=	0.64	0.62	0.74	-0.01

   For both highway and off-highway.

CT	Cycle time to the nearest 0.1 hours		
CE =	% Cedar	LA =	% Larch
HE =	% Hemlock	SP =	% Spruce

For both hauling equations, the species listed are the species percents taken from the appraisal data sheet to the nearest 1.0 percnet.

4.5.2.2 Secondary Haul

The secondary haul cost estimate is made when logs must be truck hauled between the dewater and reload site to the appraisal point.

$$\$/m^3 = 1.969 * CT$$

CT for the secondary haul is determined using the method described in Section 4.5.1(2).