

File: 195-30/RWMM

May 1, 2006

BY EMAIL

To: Regional Executive Directors

From: Bill Howard
Director
Revenue Branch

**Re: Amendment No. 5 to the *Provincial Logging
Residue and Waste Measurement Procedures Manual***

I hereby approve Amendment No. 5 to the *Provincial Logging Residue and Waste Measurement Procedures Manual*, and attach a copy for your use.



This amendment incorporates changes made to the *Coast Appraisal Manual* pertaining to pricing change of hemlock and balsam Grade U, and Grade X for all species.

This amendment comes into force on May 1, 2006, and is to be implemented on the basis of the date of survey.

A handwritten signature in black ink that reads "Bill Howard".

Bill Howard
Director
Revenue Branch

Attachment



**BRITISH
COLUMBIA**

Ministry of
Forests
and Range



MANUAL REVISION TRANSMITTAL

<p>FOR FURTHER INFORMATION OR IF YOU HAVE A CHANGE OF ADDRESS, PLEASE CONTACT:</p> <p>John Wai Residue Forester and Log Salvage Policy Forester Revenue Branch Ministry of Forests and Range 6th Floor - 727 Fisgard Street Victoria, BC V8W 1R8 Phone: 356-7671 PROFS userid: John.Wai@gov.bc.ca FAX: 387-5670</p>	MANUAL TITLE	
	Prov. Logging Residue & Waste Measurement Procedures Manual	
	AMENDMENT Amendment No. 5	ISSUE DATE May 1, 2006
	MANUAL CO-ORDINATOR	
	Judy Laton Manuals Co-ordinator	
	AUTHORIZATION (Name, Title)	
	W. Howard Director, Revenue Branch	

Please make the following changes to your copy of the above Ministry manual.

ACTION	(VOL.) CHAPTER-SECTION-SUBJECT		
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INSERT		1 - 10	
REMOVE	Chapter 5	5 - 6	After Chapter 5 Tab
INSERT		5 - 6	
REMOVE	Appendices	A17 - A22	After Appendices Tab
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Policy and Administration

1

1.0 Waste Assessment Policy

 Province of British Columbia Ministry of Forests	POLICY SUBJECT		
	Waste Assessments		
	May 1, 2006		
	Revenue Branch	13.6	
	APPROVED		
	 Doug Konkin, Deputy Minister		

MINISTRY POLICY

Scope

This policy, in concert with the *Provincial Logging Residue and Waste Measurement Procedures Manual*, implements the concept of “take or pay” to the utilization of Crown timber. It cancels and replaces the Waste Assessments Policy dated April 1, 2006.

Policy

Merchantable Crown timber, whether standing or felled, that is not reserved from cutting and remains on site upon the completion of primary logging of each cut block or at the expiry of the agreement or cutting permit is waste. The ministry will issue waste bills charging for this waste.

Waste bills will apply to all cut blocks in the cutting permit if timber harvesting has occurred on any cut block, unless the cutting permit was issued before November 4, 2003, and has been surrendered. For a surrendered cutting permit, waste bills will apply to harvested or partially harvested cut blocks but will not apply to cut blocks where no timber harvesting has occurred.

Waste assessments will be carried out in accordance with the *Provincial Logging Residue and Waste Measurement Procedures Manual*, as amended from time to time.

Definitions

“**Merchantable Timber**” means timber that meets or exceeds the timber merchantability specifications in the *Provincial Logging Residue and Waste Measurement Procedures Manual*. Timber that is graded dry Y or Z (Coast), dry Grade 4, Grade 6 or Z (Interior) is not merchantable.

Waste Assessments

Page 1

Figure 1.1 Waste Assessment Policy.

Policy 13.6Waste Assessments

“Primary Logging” means the cutting of timber and the yarding of that timber to a central landing, roadside or drop area in a logging operation.

“Reserved Trees” means merchantable timber left after completion of primary logging that is reserved from cutting for silviculture, biodiversity or other specific forest management reasons.

“Timber Harvesting” means the felling or removal of timber other than on road rights-of-way or landings on a cut block.

“Waste” means timber, except timber reserved from cutting, whether standing or felled, which meets or exceeds the timber merchantability specifications described for the Coast and the Interior in the *Provincial Logging Residue and Waste Measurement Procedures Manual*, that was not removed from the cutting authority area.

“Waste Bills” means a monetary invoice issued by the Ministry of Forests for waste reported in a waste assessment.

Authority

Waste assessments are authorized under:

- Forest Act, sections; 13(3)(b), 14(d)(ii), 20(3)(ii), 22(f)(ii), 33(5)(ii), 35(c)(ii), 43.3(d)(ii), 43.7(2)(e)(ii), 43.8(e)(ii), 45(1)(d)(ii), 47.5(1)(ii), 47.7(f)(ii), 103.1, 118(c)(ii).
- Provisions for waste assessments are made in the agreements and/or cutting authorities.
- *Provincial Logging Residue and Waste Measurement Procedures Manual*.

Policy 13.6

Waste Assessments

Responsibility

The district manager is responsible for conducting waste assessments on forestry licences to cut, occupant licences to cut, timber sale licences (non BC Timber Sales) and for conducting waste assessment check surveys.

The timber sales manager is responsible for conducting waste assessments on timber sale licences, forestry licences to cut and permits issued by BC Timber Sales.

Holders of a major licence, woodlot licence, community forest agreement, community salvage licence, or road permit are responsible for conducting waste assessments on their licence(s).

Methods

Only those methods described in the *Provincial Logging Residue and Waste Measurement Procedures Manual* are to be used for conducting waste assessments.

Waste Classification

Waste is classified as either unavoidable or avoidable.

Unavoidable waste means waste that:

- is inaccessible or physically obstructed; or
- could not be felled, bucked or removed due to safety or environmental reasons.

Avoidable waste means waste that does not fall within the definition of unavoidable waste.

Reporting

Waste assessments must be completed and reported within the time periods specified in the *Provincial Logging Residue and Waste Measurement Procedures Manual*.

Waste Benchmarks

Monetary billings will only be made on the avoidable waste volumes in excess of the waste benchmarks established in the *Provincial Logging Residue and Waste Measurement Procedures Manual*.

Policy 13.6Waste Assessments**Monetary Billing**

Avoidable waste will be billed according to the species and log grades.

Coniferous saw logs (Grade U or better all species and hemlock and balsam Grade J [Coast]); Grade 1 and Grade 2 (Interior) will be billed at the waste rate pertaining to the timber mark and derived in a method described in the *Provincial Logging Residue and Waste Measurement Procedures Manual*.

Grade U hemlock and balsam, coniferous Grade X, coniferous and deciduous Grade Y (Coast), and Grade 4 (Interior) will be billed at the rates established for these grades in either the *Coast or Interior Appraisal Manual* plus any bonus or levies where applicable.

Deciduous species graded saw log will be billed using the appraised stand as a whole rate or where not available, the fixed rate for the species as specified in the *Coast or Interior Appraisal Manual*, plus any bonus or levies where applicable.

Assessment Submissions

Completed waste assessments must be submitted and signed off under the signature of:

- a registered professional forester or a registered forest technologist registered with the Association of BC Forest Professionals; or
- a licensed logging residue surveyor or a licensed scaler, licensed by the Ministry of Forests.

References

- *Forest Act*
- *Provincial Logging Residue and Waste Measurement Procedures Manual*

1.1 Purpose and Rationale

1.1.1 Purpose

Waste assessments are carried out to bill licensees monetarily for timber except reserved timber, whether standing or felled, that was not removed from the cutting authority area and which meets or exceeds the timber merchantability specifications described below.

Table 1-1 Coast Timber Merchantability Specifications

Description		Mature*	Immature*
Stumps**			
•	no higher than	30 cm	30 cm
Top diameter (inside bark)			
•	all timber that meets or exceeds	15 cm	10 cm
Slab thickness:			
•	all slabs that meet or exceed (cedar only)	15 cm	10 cm
•	all slabs that meet or exceed (all other species)	10 cm	10 cm
Minimum length			
•	log or slab	3 m	3 m

- * The selection of Mature or Immature is based on the determination of maturity in a timber cruise of the cutblock. Once a cutblock is determined to be "mature" in a cruise compilation (based on 50 + % of coniferous timber having an average age of 121 years or older and deciduous timber having an average age of 41 years or older), the Mature Timber Merchantable Specifications shall be used for waste measurement of all coniferous and deciduous timber left within the cutblock. Conversely where a cutblock belongs to immature in a cruise, the Immature Timber Merchantable Specifications shall be used for waste measurement of all coniferous and deciduous timber left within the cutblock.

Table 1-2 Interior Timber Merchantability Specifications

Description		All Stands	
Stumps**			
•	no higher than	30 cm	
Diameter (outside bark) at stump height			
•	Lodgepole pine: all timber that meets or exceeds	15 cm	
•	All other species: all timber that meets or exceeds	20 cm	
Top diameter (inside bark or slab thickness)			
•	For all species and ages, except Cedar older than 141 years, all timber that meets or exceeds	10 cm	
•	For Cedar older than 141 years	15 cm	
Minimum length			
•	log or slab	3 m	
**	Measured on the side of the stump adjacent to the highest ground.		

Waste volumes are measured and billed monetarily in accordance with the following Table 1-3.

Table 1-3: The Disposition of Waste Volumes in Monetary Billing

Table Values Effective May 1, 2006 (Valid for all Species)								
LOG TYPE	G R A D E S		ALL STANDS					
			AVOIDABLE (from field data)			UNAVOIDABLE (from field data)		
	Coast	Interior	Class W/X	Measure YES/NO	Rate * S/\$0.25	Class W/X	Measure YES/NO	Rate * S/\$0.25
Sawlog **	U or better	1 and 2	W	YES	S	W	YES	NB
Sawlog Hembal	J or better							
Sawlog **	X		W	YES	\$0.25	W	YES	NB
Sawlog Hembal	U							
Lumber Reject	Y	4	W	YES	\$0.25	W	YES	NB
Dead Dry Lumber Reject	Dry Y	Dry 4	X	NO	NB	X	NO	NB
Undersize		6	X	NO	NB	X	NO	NB
Firmwood Reject	Z	Z	X	NO	NB	X	NO	NB

Class: Waste, X other

Measure/Record: YES or NO

Rate: S = 12-month average Stumpage rate for all coniferous species, and the stumpage rates established in the Coast or Interior Appraisal Manual for all deciduous species, \$0.25 = fixed base rate. NB = No Billing.

All rates charged will include any bonus bids and levies where applicable.

• See Appendix 5 for waste benchmarks.

** On coast, all species except hemlock and balsam.

1.1.2 Rationale

The right to harvest Crown timber is granted in the form of agreements under the *Forest Act*.

The licensee has the discretion of whether or not to harvest the timber from the agreement area subject to the forest management standards required.

Pursuant to the *Forest Act*, an agreement holder must pay stumpage for timber that was harvested.

Under the *Forest Act* and the agreements, the licensee must pay a waste assessment for merchantable timber not harvested and for timber deemed to be wasted.

1.1.3 Definitions

“Waste” means timber, except timber reserved from cutting, whether standing or felled, which meets or exceeds the timber merchantability specifications described for the Coast and the Interior in this manual that was not removed from the cutting authority area.

“Unavoidable waste” means waste that:

- i. is inaccessible or physically obstructed;
- ii. could not be felled, bucked or removed due to safety or environmental reasons.

“Avoidable waste” means waste that does not fall within the definition of unavoidable waste.

"Merchantable timber" means timber that meets or exceeds the timber merchantability specifications that are described in Table 1-1 for the Coast and in Table 1-2 for the Interior in this manual. Timber that is graded dry Y (5) or Z (Coast), graded dry 4, 6 or Z (Interior) is not merchantable.

“Timber Merchantability Specifications” means stump height and diameter, log top diameter, slab thickness and log length described in this manual for the Coast and the Interior.

“Waste assessment” means an assessment conducted in accordance with the procedures set out in the *Provincial Logging Residue and Waste Measurement Procedures Manual* for determining the volumes of merchantable timber and waste left on a harvested area following completion of primary logging.

“Waste benchmark” means the volume of avoidable waste, expressed in cubic metres per hectare, that can be left on a harvested area without being subject to a monetary waste assessment.

1.1.4 Monetary Billings

Subject to the waste benchmarks described in Appendix 5, the avoidable waste volumes are billed as follows.

1.1.4.1 Coast

The avoidable conifer grade X, Y and grade U hemlock and balsam waste volumes are billed at \$0.25 per m³.

Dead/dry grade Y (grade 5) timber not removed from the harvested area is not measured in waste assessments.

The avoidable coniferous sawlogs Grade J or better hemlock and balsam and grade U or better for all other species waste volumes are billed at the average stumpage rates determined in Appendix 3 of this manual.

1.1.4.2 Interior

The avoidable waste volumes of grade 4, lumber reject; are billed at \$0.25 per m³.

The avoidable sawlog grades (1 and 2) volumes are billed at the average stumpage rates determined in Appendix 3 of this manual.

1.1.5 Deciduous

Deciduous species are treated the same as coniferous species for waste billing purposes. Deciduous timber within the merchantability specifications that is not harvested, is measured as waste.

1.1.6 Amount Payable

For merchantable Crown timber that is not cut and removed, the amount payable is calculated by multiplying:

- a. the volumes of avoidable waste reported in a waste assessment after deducting the waste benchmark volume allowed under Appendix 5, by
- b. the applicable stumpage rates as follows:
 - i. Coniferous species graded:
 - (a) sawlog - the rates specified in 1.1.4.1 and 1.1.4.2,

5.1.5 Grading Pieces

Log pieces must be graded according to the rules in the *Scaling Manual* except where the waste rules are different and then waste rules are used.

For example the minimum log length for waste is 3 m instead of the 2.5 m in the *Scaling Manual*.

For more information on the grading rules see the *Scaling Manual*.

On the coast, due to the timber pricing changes made to Hembal U and X grades for all coniferous species, refer to Appendix 6 on how to grade bucking waste, stumps, logs and standing trees.

5.1.6 Visual Estimates

If loose debris cannot be quickly moved away to facilitate measurements in dispersed plots, or if logs and/or branches in landings prevent measuring one of the ends or the length of a log, visually estimate the missing dimension. In order to correctly establish the grade, at least one end must be visible or the piece should not be recorded.

5.1.7 Measure Factor

In deep accumulations, it may not be possible to measure or visually estimate each piece. In these cases, first measure and/or visually estimate the material that is accessible.

Then, project the plot boundaries down to the ground and visually estimate what portion of the volumes within the plot boundaries were measured. Record this portion on the plot tally card under "measure %."

This percent is known as the "Measure Factor", and is only applied to the plot method.

Measure as many pieces as possible, even when some dimensions of an individual piece must be estimated.

In the example below: If you were able to measure down approximately 2 m, you would record a measure factor of 40 percent providing that the volumes of waste were spread evenly through the cylinder within the plot boundaries. The measure factor is derived from $2\text{m}/5\text{m} \times 100\% = 40\%$.

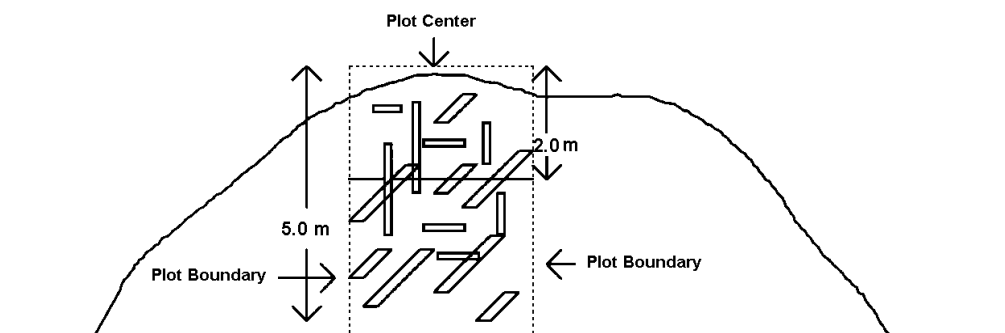


Figure 5.1 Measure Factor.

5.1.8 Deductions for Rot

For material containing rot, measure and record the gross dimensions of the piece (actual size) including rot. In addition, surveyor calculates the volume deduction for rot but records the deduction equivalent in rads and/or metres, along with the most appropriate "decay type".

Avoidable waste volumes in sawlog grade and catastrophic grade 3 from the dispersed, accumulated and the standing tree subpopulations of the cutblock will be applied to the benchmark. Catastrophic grade 3 will be applied to the benchmark first followed by the sawlog grade.

Where the avoidable waste volumes in sawlog grades and catastrophic grade 3 are below the established benchmark for the cutblock, no monetary billing of avoidable waste in sawlog and catastrophic grade 3 will be made.

Where the avoidable waste volumes in sawlog grade and catastrophic grade 3 are above the established benchmark for the cutblock, monetary billings will be made on the sawlog and the catastrophic grade 3 volumes exceeding the benchmark.

Avoidable waste volumes in endemic grade 3, and grade 4 will not be applied to the benchmark but will be billed monetarily in all cases.

ii. Survey date on or after April 1, 2006

Avoidable waste volumes in sawlog grades (grade 1 and 2) from the dispersed, accumulated and standing tree subpopulations of the cutblock will be applied to the benchmarks.

Where the avoidable waste volumes in sawlog grades are below the established benchmark for the cutblock no monetary billing of avoidable waste in sawlog grades will be made.

Where the avoidable waste volumes in sawlog grades are above the established benchmark for the cutblock, monetary billings will be made on the sawlog grade volumes exceeding the benchmark.

Avoidable waste volumes in grade 4 will not be applied to the benchmark but will be billed monetarily in all cases.

3. Benchmark Eligibility

All cutblocks where primary logging had been completed after January 1, 1999 will qualify for the waste benchmarks.

The benchmarks are administered on an individual cut block basis, regardless of whether the cutblock is in the Cutblock, the Aggregate or the Ocular Reporting Unit. Therefore, each cut block must be individually assessed to determine whether the avoidable waste within the cutblock is above or below the benchmark.

No waste benchmarks will be applied to log decks that in the determination of a forest officer are subject to scaling at a scale site or being field scaled. Such log decks must be clearly marked by the licensee and not to be included in the waste assessment.

Waste benchmarks do not apply to the unharvested cutblocks.

No waste benchmark will be applied to an area of a cutblock where the wasted timber volume compromised the site-specific forest management objective(s). The area must be delineated, waste assessed and billed separately from the remaining area of the cutblock.





		COAST Worksheet for Waste Billing Against Benchmarks		Ministry of Forests 	
To be Completed by Licensees					
Licence No.		CP No.		Cut Block	
Timber Mark			Reporting Unit No.		
Primary Logging Completion Date			Cut Block Net Area ha		
Location			Stand/Site Type		
Calculations					
Avoidable waste sawlog (X or better)		=			M ³ /ha..... (A)
Established benchmark		=			M ³ /ha..... (B)
(A) - (B)		=			M ³ /ha..... (C)
If (C) < or = 0.0000, stop					
If (C) > 0.0000, proceed as follows:					
Waste Monetary Reduction Factor (WMRF) =		(C)/(A) =			.....(D) (to four decimals)
To be Completed by Forest Service					
Processing					
If (C) is < or = 0.0000, on FS 702, code:					
Avoidable all species sawlogs (X or better):			\$0.00/m ³		
Avoidable all species grade Y:			\$0.25/m ³		
Unavoidable all species all grades:			\$0.00/m ³		
If (C) is > 0.0000, request average sawlog rate from HBS					
Average coniferous sawlog rate (HBS) =			\$ /m ³		.....(E)
Deciduous sawlog rate =			\$ /m ³		.....(F)
On FS 702, code					
Avoidable coniferous species sawlogs (X or better) (D x E) =			\$ /m ³		
Avoidable deciduous species sawlogs: (D x F) =			\$ /m ³		
Avoidable all species grade Y: \$0.25/m ³			\$ /m ³		
Unavoidable all species all grades: \$0.00/m ³					
Approved by Forest Officer (signature)				Date	

Figure A5.1a Sample of Worksheet for Waste Billing Against Benchmarks (Coast) for Blocks Surveyed before May 1, 2006.

 BRITISH COLUMBIA	COAST Worksheet for Waste Billing Against Benchmarks	Ministry of Forests	
To be Completed by Licensees			
Licence No.	CP No.	Cut Block	
Timber Mark		Reporting Unit No.	
Primary Logging Completion Date		Cut Block Net Area ha	
Location		Stand/Site Type	
Calculations			
Avoidable waste sawlog (X or better)		=	_____ M ³ /ha..... (A)
Established benchmark		=	_____ M ³ /ha..... (B)
(A) - (B)		=	_____ M ³ /ha..... (C)
If (C) < or = 0.0000, stop			
If (C) > 0.0000, proceed as follows:			
Waste Monetary Reduction Factor (WMRF) =		(C)/(A) =	_____(D) (to four decimals)
To be Completed by Forest Service			
Processing			
If (C) is < or = 0.0000, on FS 702, code:			
Avoidable all species sawlogs (X or better):		\$0.00/m ³	
Avoidable all species grade Y:		\$0.25/m ³	
Unavoidable all species all grades:		\$0.00/m ³	
If (C) is > 0.0000, request average sawlog rate from HBS			
Average coniferous sawlog rate (HBS) =		\$ _____ /m ³	.....(E)
Deciduous sawlog rate =		\$ _____ /m ³	.....(F)
On FS 702, code			
Avoidable hembal (J or better) and all other conifer (U or better)		(D x E) = \$ _____ /m ³	
Avoidable hembal U and grade X all species = D x \$0.25/m ³		\$ _____ /m ³	
Avoidable deciduous species sawlogs: (D x F) =		\$ _____ /m ³	
Avoidable all species grade Y: \$0.25/m ³			
Unavoidable all species all grades: \$0.00/m ³			
Approved by Forest Officer (signature)		Date	

**Figure A5.1b Sample of Worksheet for Waste Billing Against Benchmarks (Coast))
for Blocks Surveyed after May 1, 2006.**



 BRITISH COLUMBIA	INTERIOR ENDEMIC Worksheet for Waste Billing Against Benchmarks	Ministry of Forests	
To be Completed by Licensees			
Licence No.	CP No.	Cut Block	
Timber Mark	Reporting Unit No.		
Primary Logging Completion Date	Cut Block Net Area ha		
Location	Stand/Site Type		
Calculations			
Avoidable Waste:			
Sawlog	=		M ³ /ha.... (A)
Grade 3	=	0	M ³ /ha.... (B)
Establish benchmark	=		M ³ /ha.... (C)
[(A) + (B)] - (C)	=		M ³ /ha.... (D)
If (D) < or = 0.0000, stop			
If (D) > 0.0000, proceed as follows:			
Waste Monetary Reduction Factor			
(WMRF) =	$\frac{D}{A}$	=	<div style="border-bottom: 1px solid black; width: 100px;"></div> <small>(to four decimals)</small>
			.....( E)
To be Completed by Forest Service			
Processing			
If (D) is < or = 0.0000, on FS 702, code:			
Avoidable all species sawlogs:	\$0.00/m ³		
Avoidable all species grade 3:	\$0.25/m ³		
Avoidable all species grade 4:	\$0.25/m ³		
Unavoidable all species al grades:	\$0.00/m ³		
If (D) is > 0.0000, request average sawlog rate from HBS			
Average coniferous sawlog rate (HBS) =	\$ <div style="border-bottom: 1px solid black; width: 50px;"></div> /m ³	.....( F)	
Deciduous sawlog rate =	\$ <div style="border-bottom: 1px solid black; width: 50px;"></div> /m ³	.....( G)	
On FS 702, code			
Avoidable coniferous species sawlogs (E x F) =	\$ <div style="border-bottom: 1px solid black; width: 50px;"></div> /m ³		
Avoidable deciduous species sawlogs: (E x G) =	\$ <div style="border-bottom: 1px solid black; width: 50px;"></div> /m ³		
Avoidable all species grade 3: \$0.25/m ³			
Avoidable all species grade 4: \$0.25/m ³			
Unavoidable all species all grades: \$0.00/m ³			
Approved by Forest Officer (signature)		Date	

Figure A5.2a Sample of Worksheet for Waste Billing Against Benchmarks (Interior Endemic) for Blocks Surveyed before April 1, 2006.



 INTERIOR CATASTROPHIC Worksheet for Waste Billing Against Benchmarks		Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area ha	
Location	Stand/Site Type	
Calculations		
Avoidable Waste:		
Sawlog	=	_____ M ³ /ha..... (A)
Grade 3	=	_____ M ³ /ha..... (B)
Establish benchmark	=	_____ M ³ /ha..... (C)
[(A) + (B)] - (C)	=	_____ M ³ /ha..... (D)
If (D) < or = 0.0000, stop		
If (D) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor		
(WMRF) =	$\frac{D}{A}$	= _____(E) (to four decimals)
To be Completed by Forest Service		
Processing		
If (D) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs:		\$0.00/m ³
Avoidable all species grade 3:		\$0.00/m ³
Avoidable all species grade 4:		\$0.25/m ³
Unavoidable all species all grades:		\$0.00/m ³
If (D) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....( F)
Deciduous sawlog rate =	\$ _____ /m ³	.....( G)
On FS 702, code		
Avoidable coniferous species sawlogs (E x F) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (E x G) =	\$ _____ /m ³	
Avoidable all species grade 3: \$0.00/m		
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)		Date

Figure A5.2b Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is less than Waste Benchmark) for Blocks Surveyed before April 1, 2006.



		INTERIOR CATASTROPHIC Worksheet for Waste Billing Against Benchmarks		Ministry of Forests 	
To be Completed by by Licensees					
Licence No.		CP No.		Cut Block	
Timber Mark			Reporting Unit No.		
Primary Logging Completion Date			Cut Block Net Area ha		
Location			Stand/Site Type		
Calculations Avoidable Waste: <div style="margin-left: 150px;"> Grade 3 = _____ M³/ha..... (A) Establish benchmark = _____ M³/ha..... (B) (A) - (B) = _____ M³/ha..... (C) </div> <div style="margin-left: 150px;"> Waste Monetary Reduction Factor (WMRF) = $\frac{C}{A}$ = _____(D) <div style="margin-left: 100px;">(to four decimals)</div> </div>					
To be Completed by Forest Service					
Processing Request average sawlog rate from HBS <div style="margin-left: 100px;"> Average coniferous sawlog rate (HBS) = \$ _____ /m³ .....( F) Deciduous sawlog rate = \$ _____ /m³ .....( G) </div> On FS 702, code <div style="margin-left: 100px;"> Avoidable coniferous species sawlogs (F) = \$ _____ /m³ Avoidable deciduous species sawlogs: (G) = \$ _____ /m³ Avoidable all species grade 3: \$0.25/m³ x D = \$ _____ /m³ Avoidable all species grade 4: \$0.25/m³ Unavoidable all species all grades: \$0.00/m³ </div>					
Approved by Forest Officer (signature)				Date	

Figure A5.2c Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is greater than or equal to Waste Benchmark) for Blocks Surveyed before April 1, 2006.



	<h2 style="margin: 0;">INTERIOR</h2> <h3 style="margin: 0;">Worksheet for Waste Billing Against Benchmarks</h3>	Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area ha	
Location	Stand/Site Type	
Calculations		
Avoidable waste (sawlog) (grades 1 and 2)	= _____	M ³ /ha..... (A)
Established benchmark (A) - (B)	= _____	M ³ /ha..... (B)
If (C) < or = 0.0000, stop	= _____	M ³ /ha..... (C)
If (C) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor (WMRF) =	(C)/(A) = _____ <small>(to four decimals)</small>	.....(D)
To be Completed by Forest Service		
Processing		
If (C) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs (grades 1 and 2):	\$0.00/m ³	
Avoidable all species grade 4:	\$0.25/m ³	
Unavoidable all species all grades:	\$0.00/m ³	
If (C) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....(E)
Deciduous sawlog rate =	\$ _____ /m ³	.....(F)
On FS 702, code		
Avoidable coniferous species sawlogs (D x E) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (D x F) =	\$ _____ /m ³	
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)		Date

Figure A5.2d Sample of Worksheet for Waste Billing Against Benchmarks for Blocks Surveyed after April 1, 2006.

Appendix 6 Coast Grading

Due to the timber pricing changes made to Hembal U grade and all coniferous X grade, the followings grade rules apply to blocks surveyed after May 1, 2006.

A6.1.1 Bucking Waste and Long Butts

- Old Growth - No change other than default to J grade.
- Second growth:
 - Bucking Waste with less than an 8 rad top default to U grade,
 - Bucking Waste with an 8 rad or larger top default to J grade.

A6.1.2 Stumps

- Old/Second Growth:
 - \leq 12R default to U grade,
 - \geq 13R default to J grade.
- Unavoidable grades are the same as avoidable grades.
- Severe Ring shake = X grade. (Severe ring shake is defined as covering at least 50% of the volume of the stump).
- Stumps cannot be graded as U, X or Y grade due to rot or missing wood.

A6.1.3 Logs

Use the following rules:

- Logs less than 5 meters in length and bucked on the butt end (other than an undercut butt) will be graded as if they were 5 metres long.
- Logs with an undercut butt and less than 5.0 metres to the point where 8 rads disappears cannot be better than U grade.
- Logs broken at both ends or broken at the butt end will be graded according to the scaling grade rules.
- Logs greater than 12.8 metres in length will be pencil bucked at 12.8 metres from the butt and each piece is classified and graded accordingly.

A6.1.4 Standing Trees

Use the following rules:

- Old Growth/Second Growth.
- Trees that are greater than 12.8 metres to the timber merchantability specifications top diameter will be pencil bucked in 12.8 metre segments with each segment classified and graded accordingly.

For example, a 15.0 metre tree would be entered as a 12.8 metre log and a 2.2 metre piece of bucking waste with each piece graded according to its dimensions.

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