Impact of 2010 Interior Pricing Policy Changes
On Selling Price Zone 25 Licenses

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September 14, 2010

This report has been prepared in response to a request by the Pricing Branch, Ministry of Forests and Range. It reviews the impact of 2010 Interior Pricing policy changes on licensees eligible for zone 25 pricing of small wood timber. Eligibility for zone 25 pricing is available when a licensee is restricted to harvesting in stands of timber where the cruise net merchantable volume per tree averages less than .20m^3. The terms of reference for the review are attached at Appendix 1.

This review has been prepared by Steve Potter, RPF, and Hugh Gordon, FCA.

In the course of the review we have:

- met with the following (see Appendix 2 for a detailed listing):
    - staff of Pricing Branch, Ministry of Forests and Range,
    - licensees, or their representatives, of zone 25 licenses,
    - staff of the Cascades Forests District,
    - District Manager of the Quesnel Forest District (by telephone), and
    - BC Timber Sales Manager, Kamloops (by telephone),
- reviewed written submissions by licensees to the Ministry with respect to the impact of the forthcoming pricing changes; and
- analyzed the impact of the pricing changes including estimates of prospective impacts on pricing for representative cutting permits.

A. Background

There are currently 20 licensees with 51 cutting authorities that use selling price zone 25 in appraisals. On July 1, 2010 the pricing regime in the British Columbia Interior will start a two-year transition from what has been termed “MPS-B” to “MPS-A”. In 1987 the province adopted the comparative value pricing (“CVP”) system. Stumpage was collected to meet a quarterly government established target rate with stumpage distributed to licensees based on the relative value per cubic meter (the Value Index), of the timber harvested from the licenses. The value index was determined starting with the average market value (“AMV”) of lumber and chips from which was deducted manufacturing, transportation and timber harvesting costs, including costs incidental to harvest such as road construction, planning and silviculture. Costs used are those estimated as average licensee costs as determined by industry surveys.

After introducing CVP, and in response to concerns that license restrictions requiring operation in small wood stands would increase operating costs and decrease product values, the AMV for timber harvested in what became known as selling price zone 25 was reduced. This was accomplished by precluding the ‘add-on’ to the log recovery factor (“LRF”) thus effectively reducing the timber value by a reduction of the AMV. The adjusted AMV for zone 25 is included in the quarterly stumpage parameters published by the Pricing Branch. The AMV reduction resulted in substantially lower calculated stumpage rates for zone 25 licensees – although in most cases the stumpage rate defaulted up to the minimum of $.25/$m^3$.

In 2006, CVP was replaced by Market Pricing System B ("MPS-B") which applied Market Pricing System A ("MPS-A") (see more detail below) to all interior cutting authorities and aggregated the volume adjusted stumpage rate so calculated to obtain a target stumpage rate for the British Columbia interior termed the average market price ("AMP"). The CVP system was retained to distribute this stumpage to the different cutting permits.

To adjust for the inclusion in the average market price of cutting permits with low grade volumes and/or minimum stumpage rates of $\$.25/m^3$ (rather than actual lesser calculated rates), an iteration is performed to determine a base rate ("BR") that will generate the average market price.

For MPS-B, stumpage rates for individual cutting permits are calculated as the greater of:

- Indicated Rate = Base Rate + (Value Index – Mean Value Index), and
- $\$.25/m^3$.

As noted above, the base rate is the result of an iteration of the above equation that results in the volume weighted average stumpage from MPS-B being equal to the average market price.

As of July 1, 2010 the stumpage rate will be calculated applying both MPS-A and MPS-B and the difference [MPS-B minus MPS-A] will be established and used throughout the two-year transition[1]. The stumpage rate at July 1, 2010 will be MPS-A (as at July 1, 2010) plus [MPS-B minus MPS-A], which is MPS-B. At October 1, 2010 the stumpage rate will be set as MPS-A (as at October 1, 2010) plus $7/8^{th}$ of [MPS-B minus MPS-A]. Each quarter the multiplier of [MPS-B minus MPS-A] will be decreased by $1/8^{th}$ until at July 1, 2012 the stumpage rate will be MPS-A as calculated by the pricing equations applicable at the time.

The Market Pricing System (MPS-A) has been used since February 29, 2004 to price timber on cutting permits on the coast. MPS-A starts with prices for timber that are determined by the auction of cutting rights by BCTS. Data that has been found to be statistically reliable as a predictor of auction prices is collected for each block auctioned and is used to derive a regression equation that predicts the estimated winning bid or 'market price' of standing timber to be harvested from a cutting permit. When data for a licensee's own cutting permit is put into the equation, the estimated winning bid that would be expected for standing timber on that permit is obtained, but, on the assumption that it was auctioned on the same terms as BCTS auctions cutting rights. This value is used in the MPS-A equation.

The equation for determination of the expected winning bid is included in Appendix 3. Parameters used in the equation are updated quarterly to reflect changing market conditions.

Successful bidders ("bidders") at BCTS auctions do not have the same costs as do license holders. Adjustments termed Timber Obligation Adjustments ("TOAs") are needed to make the value of timber harvested from cutting permits by licensees comparable to prices paid by bidders. Costs not incurred by bidders but by licensees are:

- costs to plan and administer the license on an on-going basis,
- costs to build and maintain roads net of any such road costs that a bidder must incur,

[1] For Cutting Permits issued after July 1, 2010 a Table derived from the differences in stumpage rates calculated under MPS-A and MPS-B will be used to estimate the transition adjustment.

- costs of silviculture, and
- net financing costs/returns realized by the licensee (termed the Return to Forest Management).

TOAs are based on surveys of costs incurred by industry and are used to develop equations that estimate the costs/m^3 that a licensee would incur for a particular cutting permit. There are also deductions for specified operations such as skyline yarding, rail transportation, barge/ferry transportation, camp costs, etc. It would be unusual for a zone 25 licensee to qualify for specified operations as listed in the Interior Appraisal Manual.

The stumpage calculated by the MPS-A equation is:

- estimated Winning Bid minus (TOAs) minus (specified operations deductions).

The change to MPS-A from MPS-B results in a simpler, fairer and more understandable stumpage system more directly related to log costs. It is termed a transaction evidence appraisal system since it looks to BCTS market transactions as the basis for the pricing of timber harvested by licensees.

B. Issues Identified

As is indicated by attendance at our meeting in Merritt, the majority of licensees are in the Cascades Forest District. Generally their licenses provide for smaller harvest volumes (the holders of licenses with larger AACs tend to be in the Quesnel, Williams Lake and Vanderhoof areas.) The holders of these smaller licenses appear to have particular issues with the loss of the zone 25 adjustment and a concern that stumpage will be increased to make their operations non-viable. Larger licensees have many of the same issues. The following issues were identified in our meetings with licensees and Ministry staff.

- BCTS and TOA Data are not Comparable - BCTS does not auction comparable blocks to those that zone 25 licensees are harvesting and TOA survey data are biased to responses by large operators.
- Small Wood Costs are not Recognized - There are additional harvest costs for small wood that were recognized by the reduced AMV for zone 25 licenses and will not be recognized in MPS-A.
- License Conditions Increase Costs - Zone 25 licensees have agreed to conditions desired by the Ministry, either in the license or as a pre-condition to obtain the license, that result in higher costs that are not reflected in data used to calculate MPS-A stumpage. These conditions include appurtenances, restrictions with whom the licensee can contract, utilization standards, etc.
- Diseconomies of Scale are not Recognized - Some zone 25 licensees, particularly smaller short term non-replaceable forest licenses (“NRFLs”), suffer from higher costs due to lack of scale and this lack of scale is not fully considered in the TOAs or the harvest costs considered in bid prices by bidders.
- Cruise Based Appraisal Uncertainties - Licensees are unclear as to how cruise based appraisals will impact their operation; the utilization requirements in their license; or, the supply of small logs to post and rail and value-added processors.

- MPS-A is not Understood - Many licensees do not understand what is included in the estimated winning bid equation under MPS-A, how the equation is created or how they can estimate their MPS-A stumpage rate. Licensees have expectations of higher stumpage rates than their business will be able to sustain.

C. Issues Considered

a. BCTS and TOA Data is not Comparable

Licensees generally have little confidence that BCTS cutting blocks auctioned are comparable to those in which they operate or that BCTS auctions sufficient blocks of small wood, particularly in the .10 to .16m^3 piece size, to have a valid statistical basis for the derived coefficients that will be applied to small wood cutting permits. Concern was expressed that high value, high priced sales of small wood to the pulp market by BCTS to meet temporary supply needs would inappropriately increase stumpage rates of small wood for smaller operations that need a reliable supply of reasonably priced wood to feed their processing facilities.

Concern was also expressed that harvest costs for small cutting permits with a profile of large variability in piece size will be greater than for a more homogenous stand and that BCTS may not have obtained reliable pricing data for stands of small wood that have diverse piece sizes.

Licensees expressed their belief that BCTSs right of first refusal on cut blocks could result in BCTS selling the best blocks for the highest price which would then be used in setting the licensees' stumpage rate for poorer harvest opportunities.

There was a discussion of cost survey responses to the Ministry to be used in developing TOAs. At issue was whether cost surveys submitted by larger licensees with lesser costs/m^3 would result in failure to recognize the higher costs of a small licensee.

Analysis: We reviewed the BCTS sales data for less than .20m^3/tree sales for 2005 to 2009. There were a total of 74 sales of which one was Merritt based and two were Princeton based. All three sales were for average piece sizes of .19m^3. The concern of Cascades Forest District licensees that small wood operators in this area were under-represented in BCTS data appears valid. Our discussions with the BCTS Manager in Kamloops indicated that BCTS is planning on increased small wood sales in the Cascades Forest District, which will relieve some of the concerns of licensees that their particulars are not part of the data set. The Ministry should review BCTS sales of small wood on an ongoing basis, with particular emphasis on the Cascades Forest District, to ensure that small wood sales are reasonably represented in the data set.

We expect that these concerns will be substantially relieved if, after MPS-A is introduced, the stumpage rate for licensees remains at the minimum stumpage rate of \$.25/m^3. It appears extremely unlikely that the stumpage rate for zone 25 cutting permits in the Cascades Forest District will be other than the minimum rate prior to July 1, 2012 and, after that, greater than minimum stumpage would likely apply only if lumber prices are higher than is currently the case. See our analysis in Appendix 4. As discussed in paragraph f. below, a more comprehensive understanding of how

MPS-A works and its results if applied to the licensees' cutting permits could do much to reduce licensees' concerns.

TOAs cannot be exact and some operators will have costs lesser, or greater, than provided by the relevant TOA formula. The same methodology to develop TOAs applies to all cutting permits in a Timber Supply Area ("TSA") including cutting permits for trees that are less than .20m^3 but are not zone 25 qualified. Where a cut block is harvested by a licensee with a small annual allowable cut with the result that the licensee is unable to realize the scale economies of large licensees, an adjustment could be considered to compensate for increased TOAs incurred by the licensee. Such an adjustment would apply universally, not just to present zone 25 cutting permits. This possibility is reviewed in paragraph d. below.

b. Small Wood Costs are not Recognized

There are concerns that MPS-A will not recognize the greater costs of harvesting small wood which many licensees believe were recognized by the zone 25 adjustment to AMV.

Analysis: When BCTS auctions blocks of small wood the successful bidders have paid market price for the tree on the stump, less the costs they will incur to harvest the tree. Thus, the actual market costs to harvest the small wood are effectively included in the market price derived from BCTS sales. As discussed in paragraph a. above, out of a total of 74 BCTS small wood sales over the prior two years, only three were in the Cascades Forest District. BCTS plans substantially more sales in the Cascades Forest District over the next two years.

c. License Conditions Increase Costs

The Ministry has issued licenses that involve the licensee accepting obligations not directly related to the harvest or market use of timber but that are undertaken as part of the licensee's broader business. Such obligations might include:

- an agreement to operate a processing facility,
- an agreement to contract with a third party for provision of employment in a processing facility,
- an agreement to provide community infrastructure assistance.

These obligations may be in the license or may require agreement prior to the license being finalized.

Analysis: An adjustment to the stumpage rate may be required when a feature of a license, or agreement imposed by the Crown to obtain a license, is such that it:

- directly impacts the costs to harvest logs, including TOA costs and costs of specified operations, or
- impacts the capacity to sell logs on the market, or to use logs in a facility that produces products for the market, unless

- additional costs related to the above are already considered by the estimated winning bid equation derived from BCTS sales data; or, are included in TOAs; or, are included in costs allowed for specified operations.

Examples of license features that may require adjustment are:

- small volume licenses that cannot achieve the economies of scale of licenses that make up the data set used in the estimated winning bid equation – see Appendix 3;
- utilization requirements that are more demanding than those required of BCTS bidders and are not overridden by the use of cruise based appraisals.

License obligations not described above may impact the value of the license, or the licensee's business, but if they do not directly effect the value/m^3 of the Crown's timber, no stumpage adjustment should be necessary and any costs that may be associated with such obligations should be considered as being paid from the net logging revenue determined after payment of stumpage, and not as a cost to be considered in calculating stumpage.

d. Diseconomies of Scale are not Recognized

On average, small volume licensees will have small volume cutting permits. Many zone 25 licensees have small allowable annual cuts in their licenses and have expressed concerns that they are unable to achieve the economies of scale available to larger licensees with the result that even though operating efficiently, they have higher costs that will not be recognized by MPS-A. Their diseconomies arise in planning and administration of the harvest, including increased fixed costs/m^3; reduced negotiation capacity when engaging contractors; lower equipment utilization, or higher rents for equipment; and, reduced flexibility to allocate labour efficiently.

Analysis: Operators with small harvests can joint venture or partner with other licensees to achieve a more efficient scale of operation but there are structural and organizational costs inherent in such arrangements. As well, harvests may be deferred to achieve a more economical size of cut but there are costs associated with the deferral and generally deferral will achieve only a partial offset of diseconomies at best.

The issuance of licenses with small allowable annual cuts results in diseconomies not fully recognized by the MPS-A calculation. The cost of these diseconomies should be borne by the Crown through an adjustment to stumpage. Such an adjustment would:

- apply to licensees with licenses with a small allowable annual cut,
- apply universally to all such licensees,
- be included in the MPS-A estimated winning bid equation, and,
- be graduated in response to the extent of the diseconomies of the license.

We suggest that the Ministry consider an amendment to the estimated winning bid equation to replace the average cutting permit volume for the zone with the allowable annual cut of the particular license where this is less than the average cutting permit

volume and, to exclude from the calculation of the average cutting volume for the zone, the volumes of all licenses to which such replacement applies. We suggest using the license volume to avoid an incentive to simply submit small cutting permits for approval in order to reduce stumpage payable. See Appendix 5 for examples.

e. Cruise Based Appraisal Uncertainties

After July 1, 2010, all stumpage for harvests from permits with 35% or more gray or red mountain pine beetle attacked lodgepole pine will be cruise based. The implications of a change from scale based to cruise based appraisal is not fully appreciated by many licensees.

Analysis: The consequences of using cruise based appraisals rather than scale based will include:

- Once the appraisal is completed and the stumpage determined by application of the MPS-A stumpage rate to the cruise, the stumpage for the cutting permit becomes a 'sunk' cost.

- Even if the license contains particular utilization obligations, these obligations will cease to be applicable for stumpage purposes. The licensee will choose to take any wood from the cutting permit where the revenue from its sale or use exceeds the cost to get it to market. Higher utilization standards will not be a basis for a claim of reduced stumpage. The utilization standard in the license will only be used for cut control purposes.

- Since the marginal economics of taking very small pieces is improved, it is to be expected that more wood will be available for processors that utilize this part of the profile such as post and rail operations and that costs of this wood will be subject to downward pressure.

- With a scale based appraisal, grade 6 wood attracted stumpage of $\$.25/m^3$, but the stumpage for grade 6 wood is included in the MPS-A calculation with a cruise based stand as a whole appraisal.

The Ministry should provide an information release to provide licensees with an appreciation of how cruise based appraisals will be applied.

f. MPS-A is not Understood

Many smaller licensees, some large ones and some Ministry personnel do not have a clear understanding of how BCTS auction data generates the estimated winning bid equation and how the elements in that equation relate to the particulars of a licensee's operations. Licensees may not be able to estimate with reasonable accuracy the stumpage rate that will apply to them under MPS-A. We believe that this lack of understanding, and the uncertainty as a consequence of it, has resulted in unrealistic expectations of higher stumpage rates that will be applied to current zone 25 licensees after MPS-A is introduced.

Analysis: In our view, much of the concern expressed by licensees would not exist if licensees understood how the equation worked and had a model into which they could input their particulars to estimate stumpage rates.

To improve understanding a program could be initiated to educate licensees and Ministry staff on MPS-A. This would include information on the methodology which uses BCTSs auction results to derive the estimated winning bid equation and how TOAs are determined.

The Ministry could also develop a calculation worksheet to be used by licensees to estimate stumpage rates applicable to their cutting permits. Elements particular to a licensee's cutting permit would be left for the licensee to complete. The worksheets could be updated quarterly by the licensee to reflect changing market conditions.

D. Other Relevant Considerations

1. Fairness

Approximately 10% of cutting authorities harvested are under .20m^3/tree piece but are not eligible for the appraisal adjustment for zone 25 since the relevant license does not contain the less than .20m^3/tree piece restriction. Approximately 3% of logs harvested are eligible for the zone 25 appraisal adjustment since they are harvested from licenses that are so restricted. We are not aware of any analysis to quantify differences in costs or market values between small logs harvested from restricted or non-restricted licenses. In the course of our review we have not received submissions from zone 25 licensees or from the Ministry that provide calculations or data to support a different treatment for small logs harvested from restricted and non-restricted licenses. We have not identified any substantive basis for differences based on a zone 25 restriction in a license. The estimated winning bid equation acknowledges that the market price/m^3 for small logs will be generally less through an element in the equation that adjusts for piece size (the current piece size variable is specified as "minus 8.70Ln(VPT)" – see Appendix 3).

Stumpage is designed to collect rent for the Crown, the owner of the resource, equal to the net value of the resource alienated by the licensee. The net value of logs harvested is their value in the market less any costs necessary to get them to the market. Winning bids from BCTS auctions set the market value of standing timber less direct harvest costs. (This is the net log value to the BCTS bidder.) MPS-A then deducts the costs a licensee incurs incidental to harvests (TOAs and costs of any specified operation) which are not costs that will be incurred by bidders at BCTS auctions. Unless some unique element of the harvest or marketing of a particular identifiable category of logs can reasonably be shown to impact the net market value of harvested logs, no additional adjustment should be needed. We have suggested a circumstance where we believe MPS-A may not fully consider the costs of a licensee getting logs to market as a result of the licensee having a small annual harvest volume. We have suggested an approach that the Ministry might consider to adjust MPS-A for certain diseconomies this causes. If this were introduced, some low harvest volume licensees now eligible for zone 25 appraisal adjustments would receive consideration under MPS-A for extra costs incurred as would other small volume licensees. Where a license requires higher actual utilization (i.e., not just for cut control) than is required from a BCTS bidder and cruise based appraisal does not

avoid any costs resulting from the mandatory higher utilization, an adjustment to consider such costs could be developed. We understand that such a circumstance would be unusual.

Where different licensees are required to pay different stumpage for timber harvested from cutting authorities of equivalent market value, the stumpage system promotes unfair competition and, in all likelihood, the Crown is failing to receive fair value for a portion of its resource.

2. Zone 25 Adjustment Disappears

The zone 25 adjustment was to the lumber recovery factor which, in turn, reduced the average market value of lumber used in the calculation of stumpage. This adjustment will have disappeared after July 1, 2010 and a different adjustment mechanism would be needed. The MPS-A methodology is simple – it currently measures the net timber value by reference to market prices and to licensees' average costs. With this straight-forward structure any adjustments for restrictions in a license to a particular piece size would require evidence of impacts on winning bids not already measured by BCTS auctions or by TOAs. Identifying any adjustment would require first a theoretical basis for the adjustment and then a statistical analysis to identify the nature and size of the adjustment. We have not identified any theoretical basis for an adjustment based only on piece size that should not already be captured by the current MPS-A methodology. In this regard we understand that BCTS auctions of small piece cutting rights in the Cascades Forest District are planned to provide a more extensive data set.

E Recommendations

Our recommendations are:

1. Provide education for licensees and for the relevant Ministry staff on the workings of MPS-A.

2. Provide licensees with a worksheet to which they could add the particulars of their license or cutting permit to estimate the stumpage rate applicable.

3. Provide information to licensees on the operation and impacts of cruise based stumpage.

4. Consider replacing the volume amount in the pricing equation that includes the average cutting permit volume in the zone (currently "1.71Ln(volume/1000)") with the annual license volume where that is less than the average cutting permit volume for the zone and, in calculating the average cutting permit volume for the zone, remove all cutting permits to which this replacement applies. This would provide an adjustment to compensate for diseconomies associated with a low volume license.

5. Follow through on plans for increased BCTS sales of small wood in the Cascades Forest District, and other forest districts, and have Ministry staff review BCTS sales plans on an ongoing basis, with particular emphasis on the Cascades Forest District, to ensure that the increased number of sales occurs.

6. If higher standards of utilization are mandatory for a license than are required for successful bidders of cutting rights in BCTS sales and cutting permits for the license are subject to scale based appraisal, consider how costs are impacted by the higher utilization standard.

Appendix 1

Review of Zone 25 & Small Wood Licences - Terms of Reference

Background

To facilitate the 2010 Interior Pricing Policy changes, it is necessary to review the current zone 25 pricing on small wood licences. Zone 25 Average Market Values (AMV's) are used in an appraisal when licences are restricted to operating in stands of timber where the cruise net merchantable volume per tree is less than 0.20 m3 /tree. The significant reduction in the AMV was originally thought to be warranted due to the tenure restrictions and predicated on the licence having additional restrictions as well as tree size.

There are currently 20 licensees with 29 cutting authorities using zone 25 AMV's in the appraisal. The majority are in the Cascades and Quesnel Forest Districts. It is intended that concurrent with the change to Market Pricing System A, this pricing zone will be phased out over a two year transition period.

In the current BCTS 5 year dataset there are 74 auction sales with a piece size of 0.20 or less. All are in pine leading stands and 24 are lump sum sales. This data provides pricing signals for this timber profile; however, there is some concerns that other costs are not being reflected.

Purpose

The purpose of the review is to examine:

1) The current timber profile being harvested.
2) Specific cost requirements due to the restrictions in the licence.
3) Whether or not the additional costs attributable to the licence are accounted for in the BCTS auction data or other provisions in the Interior Appraisal Manual.

Structure & Scope

This review will be conducted by Hugh Gordon, CA with technical assistance by Steve Potter, RPF of Breakthrough Forest Solutions Inc. They will endeavour to talk with all current zone 25 licensees.

The review should discuss the following questions with zone 25 licensees and Ministry staff that have a working knowledge of these licences:

1) For the harvesting phase, are the operating costs experienced by the BCTS bidder different than the small wood licensee?
2) For the tenure obligation allowances (TOA's), are there additional costs that might not being captured by the existing surveys?
3) Do these licences have requirements that incur costs that are not reflected elsewhere in the appraisal system or experienced by other licensees?
4) Are these real costs that would be incurred by the licensee or notional costs?

Current practice should be part of the review and if possible experienced costs.

Pricing Branch, Ministry of Forests and Range May 11, 2010

A draft report will be submitted to Pricing Branch by June 7, 2010. The report will indicate the findings and provide recommendations to Pricing Branch as to how zone 25 licences should be treated during the 2-year transition to MPS A and/or beyond.

The draft report will be circulated by Pricing Branch to affected and interested parties for comments. A final report would be prepared following the review of the comments by Pricing Branch. The expected date of the final report is June 25th.

Murray Stech
Director

Pricing Branch, Ministry of Forests and Range May 11, 2010

Appendix 2

Meetings with Licensees and Ministry Staff

Meeting of Hugh Gordon and Steve Potter on May 21, 2010 with Pricing Branch, Ministry of Forests and Range, at Victoria.

Attendees:

- Grant Loeb, Manager, Timber Pricing
- Steve Fletcher, Senior Timber Pricing Forester (Systems)
- Bob Bull, Senior Timber Pricing Forester (Interior)
- Tom Casey, Senior Timber Pricing Accountant (Interior)

Meeting of Hugh Gordon and Steve Potter in the morning of June 1, 2010 with licensees at The Best Western Inn in Merritt.

Attendees:

- Dave Watt, L&M Forest Products Ltd.
- Trevor Ball, Lower Nicola Indian Band
- Don Brimacombe, Sungate Timber Ltd.
- Rod Gatenby, representing the Coldwater Indian Band, the Siska Indian Band, the Cook's Ferry Indian Band and the Nooaitch Indian Band
- Ken Stowe, Monte Lake Forest Products Inc.
- Corey Korumi, Ardew Wood Products Ltd representing Nicola Pacific Forest Products Ltd.
- Jerry Canuel, Aspen Planers Ltd.
- Kevin Gayfer, Aspen Planers Ltd.
- Brian Bertoria, Applied Timber Management Ltd.
- Don Ignace, Sk7ain Ventures Ltd.
- Mike Anderson, Sk7ain Ventures Ltd.
- Mike Kennedy, Ainsworth Lumber Co. Ltd.
- David Walkem, Cook's Ferry Indian Band

Meetings with Hugh Gordon and Steve Potter on the afternoon of June 1, 2010 with licensees at The Best Western Inn in Merritt.

Attendee:

- Mike Kennedy, Ainsworth Lumber Co. Ltd.

Attendee:

- Don Brimacombe, Sungate Timber Ltd.

Attendee:

- Corey Korumi, Ardew Wood Products Ltd. representing Nicola Pacific Forest Products Ltd.

Attendees:

- David Walkem, Cook's Ferry Indian Band
- David Lawrence, Coldwater Indian Band
- Jerry Canuel, Aspen Planers Ltd.
- Rod Gatenby, representing the Coldwater Indian Band, the Siska Indian Band, the Cook's Ferry Indian Band and the Nooaitch Indian Band

Attendee:

- Jerry Canuel, Aspen Planers Ltd.

Meeting with Hugh Gordon and Steve Potter on June 2, 2010 with staff of the Cascades Forest District at the District Office in Merritt.

Attendees:

- Charles Van Hemmen, District Manager
- Len Marsh, Tenures Officer
- Rich Hodson, Tenures Forester
- Cal Bigelow, Tenures Forester

Meeting with Hugh Gordon and Steve Potter with licensees by telephone:

- Dave Watt, L&M Forest Products on June 7, 2010
- Curtis Fenton, C&C Wood Products Ltd on June 7, 2010
- Gerry Grant, District Manager, Quesnel Forest District on June 7, 2010

Meeting with Steve Potter, by telephone.

- Tony Buckley, Timber Sales Manager, Kamloops, Ministry of Forests and Range

APPENDIX 3

Example of MPS A

Mark 100
Effective Date: 1-Jul-10

Constant	equals	$ 32.85
-11.86 times the exchange rate	equals	$(11.54)
(.152 times Real Stand Lumber Price)/CPIF	equals	$8.74
-18.91 times HemBal %	equals	$ -
+37.08 times cedar %	equals	$ -
1.71*Ln(Volume/1000)	equals	$6.72
-19.10 * % Decay	equals	$(0.57)
-9.48 * % Cable Yard	equals	$ -
-64.08 * Helicopter	equals	$ -
-11.48 * % Fire	equals	$ -
-1.01 * Cycle Time	equals	$(4.55)
-6.55* Peace Zone 9	equals	$ -
-13.73 * 2009 Auctions	equals	$(13.73)
8.70 * Ln(VPT)	equals	$(14.45)
1.50 * Ln(VPH_Coniferous)	equals	$8.09
.871 * District # of bidders	equals	$3.05
-2.86 * % Partial Cut	equals	$ -
-.0209 * % Slope	equals	$(0.21)
.709 * Highway Transport	equals	$0.71
-$5.56 * % Total Attack Scale Base Only	equals	$ -
-$8.01 if Cruise Base Lump Sum	equals	$(8.01)
Total	equals	$7.10
Market Selling Price (total x CPIF):	**equals**	**$8.67**
Forest Management & Administration:	equals	$5.40
Silviculture:	equals	$4.35
Development Cost:	equals	$1.20
Road Maintainance:	equals	$1.10
Low Volume Cost Estimate:	equals	$ -
Trend	equals	1.000
Trended TOA's	equals	$12.05
Quarterly trended TOA's	equals	$12.50
Grossed Up TOA's	equals	$12.50
Return to Forest Management at 4.4%	equals	$0.55
Market Logger Road Cost:	equals	$(1.05)
Total Tenure Obligation Adjustments:	equals	**$12.00**
Rail or Barge	equals	$ -
Boom & Dump	equals	$ -
Dewater & Reload	equals	$ -
Isolated Authority	equals	$ -
Skyline	equals	$ -
Total Specified Operations:	**equals**	**$ -**
Indicated Rate:	equals	$(3.33)
Final Rate:	**equals**	**$0.25**

Appendix 3 con't – Data Input for Merritt .19 Piece Size

Consumer Price Index (CPI)	equals	133.4
Base Consumer Price Index (CPI)	equals	109.3
BC Consumer Price Index (P110000) for latest month divided by base (CPIF)	equals	1.2205
Exchange Rate	equals	$ 0.9729
HemBal %	equals	0.0%
Cedar %	equals	0.0%
CP Volume	equals	50,758
% Decay	equals	3.0%
% Cable Yard	equals	0%
% Helicopter	equals	0%
% Fire	equals	0.0%
Cycle Time (hrs)	equals	4.5
Peace Zone (on or off variable)	equals	0
2009 Auctions (yes or no)	equals	1
Volume per Tree	equals	0.19
Volume/hectare coniferous	equals	220
District # of bidders	equals	3.5
% Deciduous	equals	0%
% Partial Cut	equals	0.0%
% Slope	equals	10%
Highway Transport (yes or no)	equals	1
% Total Attack Scale Base	equals	83%
Cruise Base Lump Sum (yes or no)	equals	1
TOA Trend Factor	equals	1
Quarterly Trend Factor	equals	1.0373
Point of Appraisal	equals	MERR
Offgrade %	equals	26.48%
Offgrade Applied %	equals	0.00%
Market Logger Road Cost	equals	$ 1.01

Appendix 4

- uses July 1, 2010 Average Market Values
- all cutting permits are Cruise Base

Forest Management & Administration:	equals	$5.40	
Silviculture:	equals	$4.35	
Development:	equals	$1.20	
Road Maintainance:	equals	$1.10	
Market Logger Road Cost:	equals	-$1.05	
Return to Forest Management:	equals	$0.55	
Trend:	equals	$0.45	
TOTAL TOA:	equals	**$12.00**	
Cycle time:	equals	4.50	hours
C.P. Volume per hectare:	equals	220	m3/ha
Pine percent:	equals	100%	
Number of Bidders Merritt:	equals	3.5	
Number of Bidders Williams Lake:	equals	5.2	
Number of Bidders Vanderhoof:	equals	2.1	

Point of Appraisal	**Piece Size**	Estimated Winning Bid	Total TOA	Indicated Stumpage Rate	**Final Stumpage Rate**	AMV Used	AMV to Turn Positive
Merritt	**0.19**	$8.67	$12.00	$(3.33)	**$0.25**	$ 270.00	$360.00
Merritt	**0.17**	$7.08	$12.00	$(4.92)	**$0.25**	$ 270.00	$406.00
Merritt	**0.15**	$5.35	$12.00	$(6.65)	**$0.25**	$ 270.00	$460.00
Merritt	**0.13**	$3.82	$12.00	$(8.18)	**$0.25**	$ 270.00	$500.00
Merritt	**0.11**	$1.64	$12.00	$(10.36)	**$0.25**	$ 270.00	$575.00

Point of Appraisal	**Piece Size**	Estimated Winning Bid	Total TOA	Indicated Stumpage Rate	**Final Stumpage Rate**	AMV Used	AMV to Turn Positive
Williams Lake	**0.19**	$9.37	$12.00	$(2.63)	**$0.25**	$ 228.00	$300.00
Williams Lake	**0.17**	$7.85	$12.00	$(4.15)	**$0.25**	$ 228.00	$345.00
Williams Lake	**0.15**	$6.18	$12.00	$(5.82)	**$0.25**	$ 228.00	$395.00
Williams Lake	**0.13**	$4.31	$12.00	$(7.69)	**$0.25**	$ 228.00	$455.00
Williams Lake	**0.11**	$2.20	$12.00	$(9.80)	**$0.25**	$ 228.00	$530.00

Point of Appraisal	**Piece Size**	Estimated Winning Bid	Total TOA	Indicated Stumpage Rate	**Final Stumpage Rate**	AMV Used	AMV to Turn Positive
Vanderhoof	**0.19**	$5.80	$12.00	$(6.20)	**$0.25**	$ 232.00	$395.00
Vanderhoof	**0.17**	$4.26	$12.00	$(7.74)	**$0.25**	$ 232.00	$440.00
Vanderhoof	**0.15**	$2.59	$12.00	$(9.41)	**$0.25**	$ 232.00	$495.00
Vanderhoof	**0.13**	$0.72	$12.00	$(11.28)	**$0.25**	$ 232.00	$560.00
Vanderhoof	**0.11**	$(1.40)	$12.00	$(13.40)	**$0.25**	$ 232.00	$640.00

Appendix 5- Examples of impact of using license volume instead of average cutting permit volume.

Central	**Average**	**License Volume**				
Volume	54,039	45,000	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 6.82	$ 6.51	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	1.2205	1.2205	1.2205	1.2205	1.2205
Contribution	$ 8.33	$ 7.94	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		$ 0.38	$ 0.52	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		$ 0.38	$ 0.91	$ 1.61	$ 2.67	$ 4.97
North West	**Average**	**License Volume**				
Volume	51,802	45,000	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 6.75	$ 6.51	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	1.2205	1.2205	1.2205	1.2205	1.2205
Contribution	$ 8.24	$ 7.94	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		$ 0.29	$ 0.52	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		$ 0.29	$ 0.82	$ 1.52	$ 2.59	$ 4.88
Okanagan	**Average**	**License Volume**				
Volume	50,758	45,000	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 6.72	$ 6.51	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	1.2205	1.2205	1.2205	1.2205	1.2205
Contribution	$ 8.20	$ 7.94	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		$ 0.25	$ 0.52	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		$ 0.25	$ 0.78	$ 1.48	$ 2.54	$ 4.84
Nelson	**Average**	**License Volume**				
Volume	44,260	na	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 6.48	na	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	na	1.2205	1.2205	1.2205	1.2205
Contribution	$ 7.91	na	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		na	$ 0.49	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		na	$ 0.49	$ 1.19	$ 2.26	$ 4.55
Cariboo	**Average**	**License Volume**				
Volume	66,589	45,000	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 7.18	$ 6.51	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	1.2205	1.2205	1.2205	1.2205	1.2205
Contribution	$ 8.76	$ 7.94	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		$ 0.82	$ 0.52	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		$ 0.82	$ 1.34	$ 2.04	$ 3.11	$ 5.40
Peace	**Average**	**License Volume**				
Volume	66,769	45,000	35,000	25,000	15,000	5,000
1.71*Ln(Volume/1000)	$ 7.18	$ 6.51	$ 6.08	$ 5.50	$ 4.63	$ 2.75
CPIF	1.2205	1.2205	1.2205	1.2205	1.2205	1.2205
Contribution	$ 8.77	$ 7.94	$ 7.42	$ 6.72	$ 5.65	$ 3.36
Change		$ 0.82	$ 0.52	$ 0.70	$ 1.07	$ 2.29
Reduction in Stumpage		$ 0.82	$ 1.35	$ 2.05	$ 3.12	$ 5.41