

Coastal PHARM Introduction

Prepared by F von Westarp - June 2019

Purpose

The Post-Harvest Appraisal Reconciliation Model (PHARM) came into force on April 1, 2019 through Amendment #2 of the December 15, 2018 version of the Coast Appraisal Manual (CAM). The appraisal system in place prior to April 1, 2019 utilized pre-harvest estimates (supported by as-built data) to determine stumpage rates; PHARM utilizes the cutting authority's actual post-harvest characteristics to determine the final stumpage rate. PHARM applies to all fully appraised cutting authorities, except cutting authorities issued by BC Timber Sales (BCTS).

This document introduces PHARM; the target audience is forest professionals unfamiliar with PHARM that will be involved with appraisal data submissions within the Coast Area.

Disclaimer

This document is only intended to introduce PHARM and therefore will not be updated after its release to account for any future changes to the CAM or NDC Procedures. It has been written in simplistic form to allow the basic concepts of PHARM to be easily understood. The document intent is to help provide the foundation for the reader to then follow up with a review of the CAM and Non-Tabular Development Cost (NDC) Procedures. It is vital for readers to refer to the CAM and NDC Procedures after reading this document to enable a complete understanding of PHARM and ensure accuracy of appraisals.

This document may contain errors, inconsistencies, or generalizations, and is not to be used as guidance or direction; nor should it be used to identify the interpretation or intent of the statutory framework regarding the Ministry of Forests, Lands, Natural Resource Operations & Rural Development's (Ministry) timber pricing policy.

In cases of discrepancy associated with this document, the CAM (as approved by the Minister), and the NDC Procedures (subordinate to the CAM and as approved by the Director, Timber Pricing Branch) prevail.

Non-PHARM Cutting Authorities

PHARM only applies to fully appraised, non-auctioned timber cutting authorities with an effective date on or after April 1, 2019; where "fully appraised" is as defined in the CAM.

PHARM does not apply to:

1. cutting authorities with an effective date prior to April 1, 2019;
2. cutting authorities where stumpage rate(s) are determined using Miscellaneous Timber Pricing Policy in Chapter 7 of the CAM (i.e. Great Bear Rainforest North, community forests, most woodlots, road permits, salvage licences, most linear tenures, etc.), or
3. fully appraised, auctioned timber (BCTS) cutting authorities.

Coastal PHARM Introduction

BCTS Cutting Authorities

BCTS cutting authorities require an initial Appraisal Data Submission (ADS) to determine the upset stumpage rate. Immediately following the award of the Timber Sale Licence, the sale information is inputted into Electronic Commerce Appraisal System (ECAS) as a “second pass” submission for stumpage rate determination. This all occurs within the same ECAS ID. An auctioned timber cutting authority is therefore not subject to a post-harvest ADS and is exempted from the Evidence and Full Documentation requirements associated with PHARM.

PHARM Cutting Authorities (Fully Appraised Non-Auctioned Timber)

Pre-PHARM

Prior to PHARM implementation on April 1, 2019, stumpage rates were determined using a forest professional’s estimate of a cutting authority’s forest characteristics and associated timber extraction infrastructure required (appraisal data elements). These estimates were completed prior to harvest. Appraisal data elements that were estimated included (but not limited to): harvest method, merchantable area, and development costs. These pre-harvest estimates remained unchanged post-harvest, unless the “changed circumstance” reappraisal threshold had been exceeded.

PHARM

Under PHARM the stumpage rate is determined using the appraisal data elements which reflect the actual conditions of a cutting authority in its post-harvest state. A PHARM cutting authority will therefore have two ECAS submissions (an initial ADS and post-harvest ADS) and two stumpage rate determinations (an initial stumpage rate and a post-harvest stumpage rate):

1. *the initial Appraisal Data Submission* (initial ADS) is used to generate the initial stumpage rate(s) which is used to facilitate billing on the cutting authority prior to completion of primary harvesting activities, or cutting authority expiry;
2. *the post-harvest Appraisal Data Submission* (post-harvest ADS) is used to generate a post-harvest stumpage rate(s) which reflects the actual post-harvest conditions and actual timber extraction infrastructure developed on the harvested / expired cutting authority. The cutting authority’s billed stumpage value will be reconciled using the post-harvest stumpage rate(s). A post-harvest ADS must always be submitted. Therefore, there is no longer a need for “changed circumstance” reappraisal. However, a reappraisal may be required due to Suddenly and Severely Damaged Timber or upon Minister’s Direction.

PHARM results in changes to: the appraisal process, documentation (Full Documentation and Evidence), and the appraisal of non-tabular development costs. Generally other practices in place (i.e. cruising, the appraisal of tabular development including road bank height categories, etc.) remain largely unchanged.

Coastal PHARM Introduction

PHARM –Appraisal Process (Excluding BCTS)

Initial ADS

The initial ADS is submitted through the Electronic Commerce Appraisal System (ECAS) to the district appraisal staff. The submission occurs at the same time or after the Electronic Submission Framework (ESF) data submission which is submitted to district tenures staff for cutting authority issuance.

The district must then review the initial ADS prior to issuance of the cutting permit:

- for errors and omissions relating to CAM section 2.2.2 and 2.3.1 (e.g. the cruise has been confirmed to be acceptable; the cruise compilation is correct; the cutblock configuration within the cutting authority area is acceptable);
- that the correct management unit is selected;
- that the proposed harvest method is suitable and produces the highest stumpage (e.g. helicopter versus conventional); and
- if applicable, that there is an approved road use charge attached.

District appraisal staff may seek clarification pertaining to possible errors or omissions, regarding the above criteria, from the submitting forest professional.

Subsequently the Statutory Decision Maker (SDM) has the discretion to review all appraisal data elements of the initial ADS and seek clarification prior to determination of the initial stumpage rate.

It is recommended that district appraisal staff notify an SDM if they become aware of an error or omission that is beyond the scope of their review. Additionally, district appraisal staff may communicate potential issues identified during the initial ADS that they think may be relevant during a post-harvest ADS review so that the information can be recorded in the risk rating system accordingly.

Post-Harvest ADS

A licensee's forest professional must submit a post-harvest ADS in ECAS within 180 days of the completion of primary harvest activities (i.e. "logging complete" on all the cutblocks of the cutting authority), or on expiry of the cutting authority (whichever occurs first). The post-harvest ADS must reflect post-harvest conditions and therefore the submitter must identify:

- any changes to the appraised harvest method;
- any amendments to the merchantable cutting area (may require cutting authority amendment);
- the actual reserve tree characteristics and wildlife tree patches;
- any changes to tenure obligation adjustments;
- any changes to specified operations estimates and adjustments;
- any changes to account for an intact cutblock (in accordance with CAM 3.2.2.1); &
- any other information required that may be required in an ADS.

Coastal PHARM Introduction

Risk Rating and Review

The SDM will conduct risk rating of the post-harvest ADS and will notify the district and licensee if the submission has been selected to be reviewed. The licensee will be notified within 60 days (as measured from the date that the ECAS status becomes “Received”). The review may be an “office review” or an “office and field review”. The Ministry is then allowed 12 months to complete the review (as measured from the date that the ECAS status becomes “Received”). The objective is that 50% of the post-harvest cutting authorities will be subject to an “office review”, of which 20% will be additionally subject to a “field review”. The risk rating system is responsive to a submitting forest professional’s quality based on previous review results. High and medium risk submissions are more likely to be selected for review. The post-harvest stumpage rate will be determined after completion of the review.

Those cutting authorities not selected for a review will proceed to the SDM to have their post-harvest stumpage rate determined (unless a problem is noted with the submission).

PHARM – Reappraisal

A fully appraised, non-auctioned timber cutting authority under PHARM can only be reappraised due to:

1. Sudden and severe damage to the cutting authority timber; or
2. Minister’s Direction.

Effective Dates

The effective date of the Initial ADS (and initial stumpage rate determination) for a fully appraised, non-auctioned timber cutting authority, is the effective date of the cutting authority (i.e. cutting authority issuance date).

The effective date of the post-harvest ADS (and post-harvest stumpage rate determination) is the day after the initial ADS effective date.

The exception is if a reappraisal is required. If a reappraisal is required a second (reappraised) initial and post-harvest ADS may be required. The effective date (initial ADS) of a reappraisal due to suddenly and severely damage timber is the first day of the month following the damaging event ending. The effective date of a reappraisal due to Minister’s Direction is on date signed or any future date.

The effective date also establishes the source of the equipment rates when determining an NDC project cost.

Coast Area Pricing appraisal staff recommend the practice of requesting / issuing of cutting authorities with effective dates at least two days prior to the date of any proposed timber pricing policy change to allow both the initial and post-harvest ADS to be under the same pricing policy.

Coastal PHARM Introduction

Road Use Charges

If cutting authority access requires a road use charge, then the Licensee must have the road use charge approved by the Regional Executive Director (or designate), and the approval must be attached in the initial ADS. An approval attached to an initial ADS will ensure that the charge will be accepted in the post-harvest ADS. If a Licensee does not pursue approval prior to the initial ADS then the road use charge will not be accepted in a post-harvest ADS.

Development Costs

Tabular Development Costs

With the introduction of PHARM, the tabular drainage structure (bridges & culverts) and road bank height category per unit dollar amount remains unchanged (when compared to the pre-PHARM). The per unit dollar amount for both the initial and post-harvest ADS will be obtained from the CAM in force on the effective date of the ADS.

The tabular development costs of an initial ADS are derived from estimates of the bridge crib or abutment height, bridge length, culvert diameter, culvert length, road bank height category, or rock hardness, etc. This methodology is akin to the method that was in place prior to the introduction of PHARM.

The tabular development costs of a post-harvest ADS must be field verifiable through 'As-Built' measurements of bridge crib or abutment height, bridge length, culvert diameter, culvert length, road bank height category, or rock hardness, etc.

Non-Tabular Development Costs (NDC)

NDC project costs are determined using the newly introduced NDC Procedures (replacing the Detailed Engineering Estimates (DEE) Method), and the CAM. Key concepts include:

- the use of estimated data (or 'As-Built' data if available) in the initial ADS;
- the use of actual costs for materials and specified professional services in a post-harvest ADS;
- the use of actual equipment hours and actual labour hours worked in a post-harvest ADS;
- the use of equipment rates based upon machine model and year;
- the use of CAM Appendix I labour rates; or
- the use of tendered contract bids; and
- the ability to combine certain NDC projects depending on the project type; and
- the requirement of "Evidence" and "Full Documentation" to support the appraisal of the project.

Due to the potentially large impact of an NDC project on a stumpage rate, and the potential for a large difference between the initial and post-harvest stumpage rates, forest professionals should consider carefully completing the initial ADS to help limit large changes to stumpage rates post-harvest.

Coastal PHARM Introduction

NDC Project Costs in an Initial ADS

In order to complete the initial ADS the forest professional may establish a NDC project cost via one of three methods: a qualified registered professional (QRP) estimate, a detailed calculation (estimate), or via a tendered contract.

1. A **Qualified registered professional (QRP) estimate** is based on experience or internal cost tracking to determine a reasonable cost estimate for the project.
2. A **Detailed calculation (estimate)** is based on estimated equipment hours, equipment rates (CAM Appendix I, Blue Book, or invoice), estimated labour hours, labour rates (CAM Appendix I), estimated material costs, and estimated professional service costs to determine a cost estimate for the project.
3. A **Tendered contract** is based on the results of a public tender (any number of bidders) or, a limited tender where three or more bids are received.

For the purposes of an appraisal, a tendered contract must be specific to the NDC project and may only include cost items that are eligible to be included in the appraisal of an NDC project. If the tendered contract includes activities unrelated to the NDC project or includes ineligible costs, then the contract cost may not be accepted for establishing the cost in an appraisal. Tendered contracts are likely to be used in the construction of complex, expensive and/or technically difficult road / drainage structure construction projects.

If the NDC project was completed prior to the initial ADS a detailed calculation must use the actual values.

If the project was tendered and used in an appraisal, then the lowest bid amount must be used, even if the project was awarded to a higher bidder (tendered contract).

Cost estimates previously completed under the “Detailed Engineering Estimate for Coast Stumpage Appraisal – Cost Estimate Methodology” (effective March 31, 2019) may be considered as a “QRP Estimate”.

Coastal PHARM Introduction

NDC Project Costs in a Post-Harvest ADS

In a post-harvest ADS the forest professional must appraise the NDC project cost using:

1. A **detailed calculation (actual)** is based on actual equipment hours, equipment rates (CAM Appendix I, Blue Book, or invoice), actual labour hours, labour rates (CAM Appendix I), actual material costs, and actual professional service costs to determine the appraised cost for the project; or
2. A **tendered contract** (has the same requirements as described above in “NDC Project Costs in an initial ADS”).

For each NDC project the forest professional must also be able to provide upon request (due to review):

1. **Evidence**, if the NDC project total value is less than \$25,000; and
2. **Full Documentation**, if the total value is \$25,000 or more.

Sources of Equipment / Labour Rates and Material Costs

For the appraisal of an NDC project: equipment rates (specific to the machine model and production year used) are based on: Appendix I of the CAM, the Blue Book (if not available in CAM), or invoiced rates (if not available in CAM or Blue Book); and labour rates are based on Appendix I of the CAM. Non-tabular material costs are based on the invoice amount in a post-harvest ADS. In an initial ADS material costs may be sourced from local quotes or may be based on a QRP Estimate. Provincial Sales Tax (PST) is to be included, and Goods and Services Tax (GST) is to be excluded.

Documentation

A licensee must keep adequate written documentation to support their appraisal data submission. Documentation includes:

- copies of advice, direction, approvals, or acceptances received from regional appraisal staff (including advice on the eligibility of costs or provisions in the CAM);
- documentation of all development projects (including those within development distribution agreements); and
- documentation of harvest completion status.

Documentation may be required for the initial ADS. With regards to an NDC project, if the work is already complete, Evidence or Full Documentation may also be required in the initial ADS but may not necessarily be reviewed until the post-harvest ADS.

The concept of Documentation is not new. The prior CAM (effective December 15, 2018 Amendment #1) also had documentation requirements as interpreted through the definition of the term “Appraisal Data Submission” and section 5.3.4.1. PHARM expands this concept by more explicitly stating the requirements and establishing regular review of the documentation.

Coastal PHARM Introduction

It is highly recommended that a submitting forest professional attaches all available documentation at the time of the initial ADS in ECAS. The submitting forest professional is accountable for the documentation potentially years later during a post-harvest ADS review.

Evidence – NDC Projects <\$25,000

Physical evidence means that the reason for completing the project and the completed project are both physically visible on the ground after the project has been finished. For example, this could be applicable for a 2000mm culvert installation project; where the stream acts as evidence that the culvert was required, and the installed culvert acts as evidence that the project occurred. Note a supporting rationale may be required if a drainage structure is oversized.

Where physically visible evidence may not be available after project completion, a licensee must keep: georeferenced photos, contracts, invoices, journal entries, emails, professional statements, and record statements/drawings (for bridges and major culverts) to address the evidence requirement. For example, this could be applicable for a brushing project; photos prior to the project completion act as evidence that the brushing was required, the brushed road acts as evidence that the project occurred, and a professional statement could be written to support the brushing project requirement.

When considering what evidence is required, it is important to recognize that multiple years may pass between project completion and review of the post-harvest ADS, which may affect the value of the evidence.

In the case of a tendered contract, the licensee must also be able to verify the tender process and results.

Full Documentation – NDC Projects ≥\$25,000

Full documentation means that the reason for completing the project, the completed project, and the project cost are all verifiable. Full documentation refers to georeferenced photos, contracts, invoices, journal entries, or emails. With regards to invoices: the equipment type, equipment hours worked, hours or days of labour, hours or days of professional services, and material costs must all be detailed enough to be able to support an acceptable “detailed calculation” cost for the project (in the absence of a tendered contract).

In the case of a tendered contract, the licensee must be able to verify the tender process and results to establish the project cost.

NDC Projects Started Prior to April 1, 2019

A licensee must keep adequate documentation of all development projects started on or after April 1, 2019. If the project was started prior to April 1, 2019 (and the cutting authority is being administered under PHARM) and the Licensee can prove that the project started prior to April 1, 2019 then the licensee may appraise the work using the Detailed Engineering Estimate for Coast Stumpage Appraisal – Cost Estimate Methodology.

Coastal PHARM Introduction

Combining NDC Projects

To help reduce the workload of tracking and documenting non-tabular development projects there are circumstances where the forest professional may consider what would normally be separate development projects as a single project.

All combined projects must occur along a road with the same road name. All combined projects must also result in a continuous uninterrupted section of road (except identical projects within 100m that are combined under CAM section 5.3(2)(c)).

For each combined NDC project, the form in NDC Procedures Appendix 4b must be completed. The intent is to allow for the identification of the NDC projects that were combined.

If a licensee is unsure about project combinations or desires to combine projects beyond what is normally accepted they should contact an SDM for guidance regarding the specific situation prior to inclusion in an initial ADS.

Large Drainage Structures

NDC projects related to drainage structures (i.e. bridges exceeding tabular values, portable bridge relocation, drainage structure maintenance or upgrade projects, or major culvert installation projects) must be stand alone; however:

- Large Fills associated with these drainage structures must be combined into the respective drainage structure project; and
- Barging of bridge structures must be combined into the respective bridge project; however, tabular bridge barging is stand alone.

Tabular Roads

If a tabular road cost section is less than 100 metres in length and is located between Endhaul, Overland, or New Road Exceeding CAM Table Values (i.e. bank height category), the tabular road cost section can be combined into one of the adjacent NDC projects.

Identical Projects Types Near Each Other

If an NDC project (except NDC projects associated with drainage structures) is within 100 metres of another NDC project, and both projects are the same type, the projects may be combined (excluding the in between portion of road).

Therefore, for example, two sections of end haul separated by 80m of tabular road could be considered one project when considering the ability to combine tabular road into an adjacent NDC project together and with the ability to combine identical NDC project types near each other.

Coastal PHARM Introduction

Reactivation, Reconstruction, or Upgrade

Endhaul, Overland, Large Fill (except associated with a drainage structure), and Retaining Wall projects associated with Road Reconstruction, Road Reactivation, or Road Upgrade may be combined into the respective project type (i.e. Reconstruction, Reactivation, or Upgrade).

Endhaul and Retaining Walls

A Retaining Wall project that occurs adjacent to an Endhaul project may be combined into the Endhaul project.

Highway Approach Asphalt

An asphaltting project due to a new road intersection at a highway is stand alone unless the associated new road construction is already an NDC project (e.g. due to endhaul), in which case the projects may be combined.

Tabular Culverts within an NDC Project

It is not uncommon for tabular sized culverts to be incorporated into an NDC project, for example, road construction requiring endhaul would be considered an NDC project but may also require tabular sized culvert installations (i.e. 1800mm or less in diameter).

In the past, the tabular value of a culvert normally included the cost of installation; however, the CAM now also identifies a tabular culvert value *excluding installation*. For NDC projects that require tabular sized culverts, forest professionals should:

- **Detailed Calculation:** List equipment hours and equipment rates for the NDC project which cover the project development and installation costs of culverts. To account for the culvert material the forest professional would add the tabular value *excluding installation* (Column B in CAM Table 5-4); or
- **Tendered Contract:** Ensure that the tendered contract accounts for the project development including culvert installation costs but excluding culvert material costs. To account for the culvert material cost, the forest professional would add the tabular value *excluding installation* (Column B in CAM Table 5-4).

Coastal PHARM Introduction

Eligible and Ineligible Costs of an NDC Project

Traffic Control, Mobilization/Demobilization of equipment not already nearby, Design, Supervision, Certification, Freight, Labour, and Material costs are all generally accepted costs to include in the appraisal of an NDC project.

Costs that are ineligible are those that are accounted for under the Tenure Obligation Adjustments. This includes: Forest Planning and Administration Costs, Road Management Costs, and some QRP costs (i.e. where the professional is a company staff member or long-term contract staff). Additionally, tabular costs, locally sourced log material costs, and right-of-way harvesting costs are ineligible to include in an NDC Project appraisal.

Note: This description of eligible and ineligible costs is a generalized summary and not all inclusive, details should be obtained from the CAM and the NDC Procedures.

Road Management

A licensee's cost of road management is accounted for in the Tenure Obligation Adjustments. The Road Management Adjustment accounts for: grading; brush control; minor surface repairs; sanding; snow plowing; ditch maintenance and repair; replacement of culverts less than or equal to 900mm diameter on active roads; ditchline slough removal; deactivation; minor repairs due to slides, erosion and flood damage; and road use charges (except those described in section 5.5 of the CAM). Therefore, road management costs on "Wilderness roads" are covered by the Tenure Obligation Adjustments (where "Wilderness roads" is as defined in Forest and Range Practices Act Forest Planning And Practices Regulation section 81). These costs are not acceptable in an NDC project. The exception is for reconstruction of wilderness roads where the road has not had industrial use for at least five years prior to the effective date of the cutting authority or reconstruction due to storm damage to the road or drainage structures that exceeds the road management obligations of a licensee. Evidence will be required.

NDC Project Types

The following activities are considered Non-Tabular Development Cost (NDC) Project types:

Type 1: Bridge construction where the bridge exceeds tabular values (and includes portable bridge relocation);

Type 2: Bridge or major culvert structural maintenance or upgrade;

Type 3: Barging of a bridge structure (i.e. tabular or non-tabular, and portable or permanent);

Type 4: Major culvert installation;

Type 5: Ford construction;

Type 6: Road construction requiring end haul (includes partial end haul);

Coastal PHARM Introduction

Type 7: Road construction requiring overlanding or large fills;

Type 8: New construction of a:

- main access road;
- road with side slopes over 150%
- road with consecutive gullies,
- road with a large excavation switchback,
- road requiring asphalt at a highway junction, and
- road with a bank height exceeding 7.5m;

Type 9: Road reactivation (i.e. re-establishment of a road prism load rating where the road was not under permit (may include deactivated roads));

Type 10: Road reconstruction (i.e. re-establishment of a road prism load rating that is required due to storm damage exceeding regular maintenance, or the road being a wilderness road that has not had industrial use for at least five years);

Type 11: Road upgrade (i.e. improvement of road standard and associated design);

Type 12: Placement of stabilizing material (i.e. re-surfacing an existing road, capping on a new road, or additional stabilizing material on a new road);

Type 13: Retaining wall construction;

Type 14: New road construction requiring a pipeline crossing; and

Type 15: Powerline works (e.g. increasing an existing powerline height over a road or relocating the line).

Unless combined with another project as described in the CAM and NDC Procedures; each time one of the above project type occurs, it is considered a separate NDC project. For instance, every section of end haul within a cutting authority is considered a separate NDC project (where section means a continuous uninterrupted section of road with the same road name). Sections of end haul under a single cutting authority are, for example, not to be considered together to form a single NDC project.

Development projects that do not qualify as tabular or non-tabular may also be eligible as an NDC project if a professional rationale has been provided to and accepted by the SDM prior to inclusion in an initial ADS.

Coastal PHARM Introduction

NDC Project Identification

NDC projects, Type 1, 2, 3, 4, and 15, are identified by road name, and station start / end location. This is because these types of projects are associated with a single structure on a road.

NDC projects, Type 5 to 14, are identified by *continuous uninterrupted length of road* that has the same road name (station start / end location). This is because these types of projects are found along a length of road.

For each NDC project the form in Appendix 4a of the NDC Procedures must be completed. This form is used to provide a summary of the project details and total cost in a standardized manner.

Web Links

These are useful weblinks active as of April 2019:

[Timber Pricing Branch – Coast Timber Pricing Website](#)

[Coast Appraisal Manuals](#)

[Coast Appraisal Manual Amendment No.2 April 1 2019](#)

[Coast Area Non-Tabular Development Cost Procedures](#)

List of Acronyms

ADS – Appraisal Data Submission

BCTS – BC Timber Sales

CAM – Coast Appraisal Manual

ECAS – Electronic Commerce Appraisal System

ESF – Electronic Submission Framework

NDC – Non-Tabular Development Cost

PHARM – Post-Harvest Appraisal Reconciliation Model

QRP – Qualified Registered Professional

SDM – Statutory Decision Maker