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DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
NONPOINT SOURCE WATER POLLUTION CONTROL PROGRAM

August 11, 2004

Brian Kleinhenz
Sealaska Timber Corporation
2030 Sea Level Dr., Suite 202
Ketchikan, AK 99901

RE: East Port Frederick LTF Remediation Plan

Dear Mr. Kleinhenz:

I have taken the liberty to re-name this facility the East Port Frederick Log Transfer Facility (LTF), instead of Long Island, because of the existence of another LTF named Long Island. This other Long Island facility is owned and operated by Klukwan, Inc.

The applicant of record for the East Port Frederick LTF is Huna Totem Corporation. In the June 13, 2000 Notice of Intent (NOI) submitted to the Department, the Production Data section of the NOI provides information on historic transfer operations. It details that this facility has seen use by three entities: Huna Totem Corporation, Sealaska Timber Corporation (STC) and the U.S. Forest Service. The Department has yet to issue a General Permit authorization but anticipates doing so in the very near future now that the public comment period on the Department's decision to process the LTF General Permit application submitted by Huna Totem has ended (July 13, 2004).

The Department has completed a thorough review of the Remediation Plan (RP) submitted to the Department in August of 2003. In the RP, Sealaska Timber Corporation remediation assessment resulted in STC proposing to implement additional Best Management Practices (BMPs) concurrent with monitored natural recovery.

STC proposes to implement the following additional BMPs during log transfer operations:

1. Add additional friction to the rails so that log bundles have to be pushed into the water.
2. Add a flat lay-down area at the top of the rails to collect bark that is dislodged when bundles are placed on the skid.
3. Add a breakwater around the log rafting area to reduce turbulence when bundles enter the water.
4. Open the log boom during the winter months to assist with the dispersal of bark that may be present in the rafting area.
5. Clean the bundle entry area at periods of low tide.

The monitoring program would consist of continued annual dive surveys while the facility remains active and then bi-annual monitoring utilizing current dive survey protocols once transfer activities cease. Bi-annual bark dive surveys will be completed until such time that continuous cover bark is naturally remediated to less than the 1.0 acre threshold in the General Permit. The RP projects that this will take between 2 and 10 years.

After evaluating the information and alternatives analysis in the RP using the "feasible, reasonable, and effective" test contained in the Department's 401 Certification of the LTF General Permit, the Department is unable to approve STC's RP as submitted, but will conditionally approve a modified RP as suggested below. The basis of this decision, and an evaluation of the likely effectiveness of the proposed BMPs and monitoring program follows.

Proposed Additional BMPs

The RP hypothesizes that the use of the five additional BMPs, along with lower annual transfer volumes for the remaining 3-5 years of the LTF, will significantly reduce the current area of continuous bark cover. DEC agrees that the 2000 – 2003 trendline for continuous cover bark is downward but cannot attribute the decline only to lower annual volumes since the projected annual volume of 20 MMBF is roughly equivalent to the mean annual volume of 21.6 MMBF transferred over the past fourteen years (since and including 1989). The decline is likely attributable to improved BMP implementation since 2000, and somewhat lower volumes of timber transfer.

BMP 1: Add additional friction to the rails so that log bundles have to be pushed into the water ($10,000 ± 25%).

The RP states that the rail system currently in place does not ensure that bundle entry velocity is less than 3 feet per second during all climatic and operational conditions (cold, icy, wet). The Log Transfer Facility Siting, Construction, Operation and Monitoring / Reporting Guidelines state on page 12 that "The speed of log bundles entering receiving waters should be the slowest practicable speed achievable". The discussion section on page 12 states "This guideline is necessary because the amount of bark lost during transfer of log bundles into receiving waters is directly correlated with the speed of log bundles entering the receiving waters." The discussion section goes on to state on page 13 that "There is insufficient information to agree upon a guideline which defines a practicable speed for various types and sizes of log transfer operations. However, based upon current information about existing transfer technology, a 3 ft/sec entry velocity is an achievable entry speed and will serve as a reference point for discussions."

The addition of a 4th rail or the installation of ridges / bumps on the existing rails would reduce bundle speed to less than 3 feet per second with the intent of reducing bark loss as the bundle enters salt water. Increased friction could result in requiring that the log loader push the bundles down the rail.

The increased friction would also act to increase bark loss from the bundles as they slide on or are pushed along the rails. This bark would likely accumulate on the rock ramp under the rails. The concern with this proposed BMP is that the RP

acknowledges that "Unfortunately, large cobbles located in the area directly below the log skid reduce the effectiveness of this BMP by preventing efficient removal of debris in between the cobbles by large-scale mechanical equipment" (3.3.4.1.12 Additional BMPs, Clean Log Entry Area at Periods of Low Tide, page 3-15) .

The RP states that this BMP is believed to be moderately effective in reducing bark inputs (BMPs that Reduce the Quantity of Bark Entering the Water, page 3-18). DEC concurs that installation of this BMP may reduce bark loss as the bundles enter salt water. The reason for this is that increased friction will increase bark loss in the inter-tidal area so there is likely less bark available for deposition in saltwater. DEC believes that installation of this BMP is unlikely to have any effect on the rate of bark deposition in the marine environment unless a more efficient method of debris removal at low tide is also incorporated.

DEC will not require that STC implement this BMP as a condition of approval. While the BMP is feasible and reasonable, DEC questions the effectiveness in reducing the amount of bark deposited in salt water during transfer operations. STC may elect to install this BMP voluntarily and then determine through monitoring if it is effective in reducing the rate of bark accumulation in the project area.

BMP 2: Add a flat lay-down area at the top of the rails to collect bark that is dislodged when bundles are placed on the skid ($10,000 ± 25%).

The RP states that this BMP is judged to be low to moderately effective in increasing the likelihood of bark collection in the log skid area. This BMP may be effective in increasing bark loss on a flat area above the rails due to friction but the issue of efficient bark removal from this area is similar to that for BMP 1. The fill material would likely consist of large cobbles which present bark removal challenges given the equipment typically found on site. However, the likelihood that this bark would be transported into salt water is relatively low if routine removal occurs such that the deposit does not build up to the height of the additional rails. If the deposit accumulates to a depth exceeding the height of the rail it will be "graded" towards the sloped rails by each subsequent bundle.

Judgment of the effectiveness of this BMP is more difficult given the level of information provided in the RP. The RP lacks detailed explanation on how such a system would be installed and operated or how it is expected to reduce the rate of bark accumulation in the project area. The RP states that either the existing rails would be extended upwards onto the flat area or new rails would be installed. The RP does not provide information on either the size of the flat area or the length of a rail system. Absent this type of information it is impossible to evaluate potential impacts on bark loss from this BMP.

While the BMP is feasible and reasonable, DEC has reservations about the effectiveness in reducing the amount of bark deposited in salt water during transfer operations and will not require that STC implement this BMP as a condition of approval. STC may elect to install this BMP voluntarily and then determine through monitoring if it is effective in reducing the rate of bark accumulation in the project area.

BMP 3: Add a breakwater around the log rafting area to reduce turbulence when bundles enter the water ($20,000 ± 25%).

The RP states that this BMP is judged to be low to moderately effective in reducing surface turbulence at the bottom of the skid but fails to provide an effectiveness rating in terms of bark loss. According to the Remediation Plan (page 3-15), *"A log boom could be constructed around the rafting area to reduce the agitation experienced by log bundles stored in the water. This BMP is expected to reduce the amount of bark that is loosened from bundles in this area and eventually depositing on the subsurface."* Since all rafting areas are contained by log booms, it is difficult to understand how this "BMP" is any different from standard practice. In addition, in several places, the plan describes the waters at the LTF as being protected from storm winds and wave action (pages 2-8, 2-9, and 2-13). While using a log boom breakwater is acceptable, we question presenting it as an additional BMP to effectively control bark loss.

Figure 3.2 (approximate scale 1" = 60') shows the proposed location of the log breakwater but does not include information on how log rafts would be towed to the ship loading site. This would require that at least a portion of the breakwater be hinged to allow rafts to be towed to the ship moorage site. This BMP may require a modification to the Section 10 permits for mooring buoys.

All the dive reports submitted to date show the transect covering the area between the ramp and the raft building grounds is covered by continuous cover bark. DEC believes that most of the bark within the area comes from watering bundles and bundle movement by the boom boat, not turbulence generated by north winds.

While the BMP is feasible and reasonable, DEC has reservations about its effectiveness in reducing the amount of bark deposited in salt water during transfer and raft building operations. DEC will not require that STC implement this BMP as a condition of approval. STC may elect to install this BMP voluntarily and then determine through monitoring if it is effective in reducing the rate of bark accumulation in the project area.

BMP 4: 4. Open the log boom during the winter months to assist with the dispersal of bark that may be present in the rafting area (cost estimated to be low).

The RP provides cost only information ("low cost") on the effectiveness of this BMP. The RP states that opening the boom "may aid natural flushing of bark debris from the subsurface when rafts are not present (page 3-16). The Remediation Plan characterizes the site as being protected from the kind of storm winds and wave action that would be capable of dispersing bark accumulations: *"The receiving environment at the LTF is protected inner coastal habitat with very low tidal currents ..."* (page 2-8); *"The effect of waves is expected to be minimal because of the protection provided by Game Point and Long Island. Also, the local shoreline and promontories to the north and east probably provide protection from Taku winds (strong, east and northeast winds), which periodically occur in the winter"* (Page 2-9); and *"The ZOD resides in a protected area near the mouth of Port Frederick"* (page 2-13). Given these descriptions, it appears doubtful that wave action at this site would be sufficient enough to disperse benthic bark accumulations.

While the BMP is feasible and reasonable, DEC has reservations about its effectiveness in reducing the amount of bark deposited in salt water during LTF operations and will not require that STC implement this BMP as a condition of approval. STC may elect to install this BMP voluntarily and then determine through monitoring if it is effective in reducing the rate of bark accumulation in the project area.

BMP 5: Clean the bundle entry area at periods of low tide (no cost estimate provided).

This is not a new BMP being proposed for implementation. The Notification submitted to DEC by Huna Totem Corporation dated June 13, 2000 includes the following statement (5th bullet, page 2, The Tidelands LTF Rafting and Log Storage section): "Bark and wood debris are removed from the ***transfer ramp***, ***adjacent tidelands*** (emphasis added), and the upland sort yard routinely". This BMP is a stipulation of the General Permit, which the RP acknowledges on Page 3-3. Therefore, it shouldn't be presented as such in the RP.

As such, DEC will not approve the implementation of this BMP as new. This cleaning should be occurring on a routine basis. In addition the 401 Certification of the 1983 modification contained the stipulation that cleaning would occur on a daily basis.

None of the *new* BMPs proposed by STC fully meet the feasible, reasonable, and *effective* test contained in the 401 Certification of the General Permit. All are feasible and reasonable but the RP fails to provide a convincing explanation of how these BMPs, if implemented, will act to reduce future accumulation and provide for any reduction in the existing continuous cover bark footprint.

Other BMPs Considered by STC But Not Proposed as the Preferred Remedial Measure

Modify the Existing Ramp to Allow Direct Placement of Logs in Water ($50,000 to $100,000 ± 25%)

The Plan (page 3-12) states *"If the existing log skid is removed from the ramp, it may be possible for loaders to use the ramp to drive down and directly deposit the logs in the water. Depending on the existing ramp's structural capability, modifications to the ramp (e.g., addition of wear plates or road surface) may be necessary. The capital cost to upgrade the existing ramp to allow loaders to use the ramp to drive down and directly deposit logs in the water is estimated to be approximately $50,000 to $100,000 (± 25 percent), assuming that additional subgrade would be required and that wearing surface would be installed."*

On page 3-13, the RP states the "The overall estimated cost of modifying the existing ramp to allow drive-down operations and the direct placement of logs in the water is $150,000 to $220,000". DEC is unable to reconcile the differences in the two estimated prices based upon information in the RP. DEC has constructed the following table based upon information contained in the RP.

From RP	Modify Existing Ramp to Allow Drive Down
Capital Cost (page 12) that includes the following items:	$50,000 - $100,000
Additional subgrade	No estimate provided
Install Wear Surface	No estimate provided
Rail removal (not included in RP)	No estimate provided
Overall estimated cost (page 13). DEC assumes that this includes the capital cost above and the item below.	$150,000 - $220,000
1 New Log Loader	$50,000 - $60,000
Cost Difference (overall – capital)	$100,000 - $120,000

Even if DEC allowed an additional $10,000 to remove the rails it appears that the actual cost to modify the existing ramp and purchase 1 used log loader, (the overall cost) is $110,000 to $170,000. This figure is substantially lower than the estimated overall cost of $150,000 to $220,000 contained in the RP.

It is not clear that modification to the existing ramp would necessitate the purchase of a used log loader capable of placing the current sized log bundles directly in the water. The RP states on page 3-13 that *"The existing equipment at the Long Island LTF consists of one Wagner 120 and two Caterpillar 980 loaders capable of moving the log bundles created at the LTF.* ***Sealaska judges that the age and capacity of this equipment will prohibit its use to place log bundles (of the current size) directly in the water"*** (emphasis added). The RP fails to explain why this equipment is capable of moving the bundles around the sort yard and to the LTF slide, but isn't capable of carrying the bundles down to the water. The information used by STC in

making this determination is not provided. Given this status, inclusion of the purchase price of a used log loader in the estimated overall cost of this alternative is not justified. Its exclusion would reduce the overall cost to $60,000 to $110,000.

If the $25,000 estimate for wear surface contained in the RP on page 3-12 (Add Paving or Wear Surface Between Log Skid Rails) is deducted from the remaining estimated cost of $60,000 to $110,000, the cost of the additional subgrade is $35,000 to $85,000. This figure equals the cost of shot rock for a new drive-down ramp plus $10,000 for rail removal.

If the estimated cost to construct a new shot rock ramp from scratch (without a skid) is $25,000 to $75,000, it is logical to assume that the cost of providing additional surfacing to the existing ramp after removing the skids would be just a fraction of new facility construction.

Build a New Drive-Down Ramp (3 options at $75,000 to $260,000 ± 25%)

The RP states that a new ramp (at the existing location or to the west near the bulkhead ramp) could be built leading down to water. This would allow log loaders to drive down to the water and place logs directly in water without using a log skid.

The cost estimate for each of the three proposed ramp designs includes $50,000 for a new log skid. This cost must be an inadvertent inclusion since this alternative does not include a skid. Without the cost of a new skid, the estimated cost to construct a new shot rock ramp is $25,000 to $75,000. The estimated cost to construct a new shot rock ramp and install a concrete surface is reduced to $160,000 to $210,000.

The following table is based upon information in the RP.

From RP	Construct New Drive Down Ramp at 10% Grade
Shot Rock	$25,000 - $75,000
Log Skid	($50,000)
Concrete Surface (wheelplanks or concrete logs)	$168,750
Total without log skid	$193,759 - $243,750

The need for including a concrete surface for a facility with a projected lifespan of 3 to 5 years is not clear. DEC is aware of other drive-downs that have a shot rock running surface. The operators must periodically re-surface the ramp at intervals based upon levels of use. Without a concrete surface or log skid, the cost to construct a new drive-down ramp is $25,000 to $75,000.

In reviewing other STC operated LTFs, DEC would note that a number of them utilize drive-down ramps at a 10% grade with rails on the outside to rest the bundles. The table of costs includes $50,000 for a log skid. As DEC completed the review of the RP, one of the unanswered questions is why STC couldn't simply relocate the existing log skids to the new site. The RP does not include any discussion of this option.

Add Paving or Wear Surface Between Log Skid Rails ($25,000 ± 25%)

The RP judges that this BMP would be low to moderately effective in increasing the collection of bark released from logs in the log skid area and to have a moderate cost to construct. DEC believes that if the ramp is paved, the effectiveness of daily bark removal would be moderate to high.

If the ramp is paved, bark and wood debris could be cleaned by hand using a broom and snow shovel. This would allow a thorough cleaning of debris from the ramp, including areas immediately adjacent to the rails, as well as minimize wear of the paved surface. Bark could be collected and disposed of DAILY at the permitted solid waste site.

Proposed Monitoring Schedule

The schedule as proposed calls for conducting annual bark dive surveys while the facility remains active and then conducting bi-annual dive surveys until such time that the bark pile is naturally remediated to 1.0 acres or less. The RP suggests that this will take from 2 to 10 years. The RP fails to include projected rates of reduction in the aerial extent of continuous cover bark (milestones). Since the RP did not include a schedule showing the projected rate of reduction by year, DEC will include the following schedule as a condition of approval.

Year	Acres of Continuous Cover Bark
2002	3.5
2003	3.2
2004	3.0
2005	2.8
2006	2.6
2007	2.4
2008	2.0
2009	1.6
2010	1.2
2011	< 1.0

Contingency Planning

The RP includes a short discussion on a Contingency Plan (3.6.2.1. Contingency Plan if the Remedial Action Objective (RAO) is Not Achieved). The discussion touches on how STC, Huna Totem Corp., and the U.S. Forest Service will implement a contingency planning process should either additional BMP implementation or natural recovery processes not perform as expected.

The first discussion section (**Additional remediation measures to achieve the RAO**) emphasizes enhanced monitoring of LTF operation and continued worker education. This is a legitimate approach if the LTF is still transferring bundles of logs into water.

The second discussion section (**Additional remediation alternative if additional measures do not work)** discusses other measures that could be implemented at the site to accelerate the rate of recovery. Measures, such as reducing the permitted volume of wood to be watered, are presented as a possible additional remediation measure. DEC is likely to take this action if there is any traditional in-water activity still occurring.

The discussion under contingency planning does not commit STC, Huna Totem Corp., or the U.S. Forest Service to any particular action in the event that the schedule of milestones is not met. The milestones, identified in this letter as a condition of the RP approval, are a permit condition and should be incorporated in all site operations planning.

RP Approval Based Upon Modification to BMPs and Monitoring Proposed

Since DEC has not found the proposed BMPs to be effective in reducing future bark accumulation or the size of the present bark footprint, DEC will not approve the RP as submitted. However, we offer two BMP options for STC to consider for implementation. The first BMP option is that STC paves the existing ramp by April 1, 2005 to facilitate efficient bark and wood debris removal at low tide. The second BMP option is that STC will construct a no frills drive-down ramp by April 1, 2005, for example, a simple 10% shot rock ramp without skids or concrete surfacing. With confirmation of STC's agreement to implement either of these BMP options, and agreement with the following conditions, the RP may be considered conditionally approved:

1. STC will agree to use the milestones established by DEC as a performance schedule for the reduction in the aerial extent of continuous cover bark reduction.
2. If subsequent dive surveys document that the reduction milestones are not being met while in-water activities are occurring, STC will agree to reduce the annual volume a corresponding amount (i.e. 20% departure from milestone = 20% reduction in in-water volume). If dive surveys submitted after the termination of in-water activity document that reduction schedule is not being met, STC will submit a revised RP to DEC within 60 days of DEC receiving the dive report. The revised RP will further examine active remediation techniques (i.e. removal or capping technologies) and propose a technology and schedule.

DEC can not issue a final approval until we are in receipt of STC's written agreement and we have completed a 30-day public notice of the Department's intent to approve. STC may wish to voluntarily implement the other BMPs proposed in the RP. Such implementation would be outside the scope of the approved RP, but the Department has no objection to that action.

Once your concurrence with either of the proposed BMP's and the conditions identified above is received by DEC, the RP is conditionally approved, and it will become a permit condition for the current and any future LTF discharge permits.

If STC wishes to discuss these findings, please feel free to call me.

Sincerely,

Chris Foley
Forest Practices Coordinator

cc: Robert Wysocki, Huna Totem Corporation, Juneau
Ron Wolfe, Sealaska Corporation, Juneau
Jonne Slemons, ADEC/Water, NPS Water Program Manager, Anchorage