



**Forest
Practices
Board**

Forestry Audit: BC Timber Sales and Timber Sale Licence Holders

Burns Lake Field Unit Portion of the Babine Business Area

FPB/ARC/243

March 2021

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Audit Results

Introduction

The Forest Practices Board is the public's watchdog for sound forest and range practices in British Columbia. One of the Board's roles is to audit the practices of the forest industry to ensure compliance with the *Forest and Range Practices Act* (FRPA) and the *Wildfire Act*.

As part of the 2020 Forest Practices Board audit program, the Board randomly selected the Burns Lake Field Unit portion of BC Timber Sales' (BCTS) Babine Business Area for audit. A map of the audit area appears on page 2.

This report explains what the Board audited and the results. Detailed information about the Board's compliance audit process is provided in Appendix 1.



Timber sale licensee harvesting a cutblock near Francois Lake on the gentle and rolling terrain typically found in the Nadina Natural Resource District.

Background

BCTS operates on the Nechako plateau portion of the central interior of British Columbia within the Nadina Natural Resource District. The Burns Lake field unit operations are within the Lakes Timber Supply Area (TSA).

This audit took place within the traditional territories of the Dakelh and Nedut'en/Witsuwit'en speaking Peoples. The Forest Practices Board recognizes the importance of their historical relationship with the land that continues to this day.

BCTS's Burns Lake operating areas are located between Babine Lake to the north and Ootsa Lake to the south, and from the west end of Francois Lake eastward to Francois Lake Provincial Park. The main communities within the field unit area are Burns Lake, Francois Lake, Grassy Plains and Southbank.

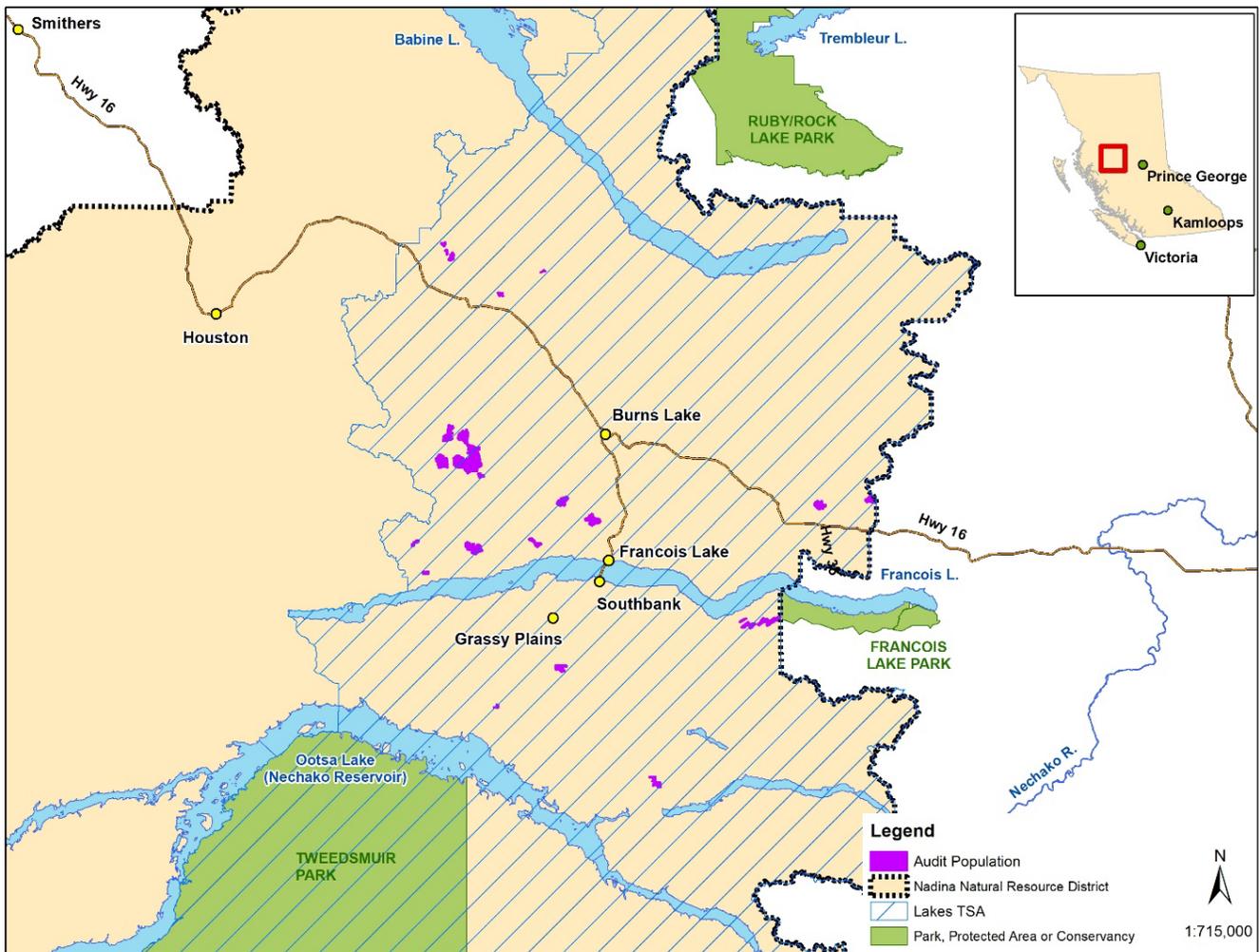
BCTS's operating areas are accessible by truck and ferry. The gently rolling terrain of the TSA is typical of the Nechako plateau portion of the central interior of British Columbia. The climate is characterized by seasonal extremes of temperature, including severe and snowy winters, and relatively short and warm summers. The ecosystems support forests dominated by lodgepole pine, hybrid spruce and subalpine fir (balsam). The forests provide habitat for a variety of wildlife including moose, deer, black bear, grizzly bear, and small fur-bearing mammals. The abundant lakes also support many freshwater fish species.

In the past two decades, the forests of the Lakes TSA have changed significantly because of a mountain pine beetle outbreak, wildfires and salvage activities.

The administrative and management centre for the business area is the office located in Burns Lake, where staff prepare operational plans, auction timber sales, and issue timber sale licences and road permits. Successful bidders are awarded a timber sale licence and must fulfill licence, permit and operational plan obligations, including timber harvesting and road work within cutblocks.

This field unit has an apportionment of 284 506 cubic metres per year from the Lakes TSA. During the two-year audit period, timber sale licensees harvested about 333 000 cubic metres in the field unit.

Map of Audit Area



Audit Approach and Scope

This was a full scope compliance audit with a two-year timeframe. All activities carried out between August 1, 2018, and August 20, 2020, by BCTS and timber sale licensees were subject to audit.

BCTS is responsible for operational planning, including preparing forest stewardship plans (FSPs)ⁱ and site plans, silviculture activities, major structure¹ maintenance, construction and deactivation, and most road construction, maintenance and deactivation outside of cutblocks.

Timber sale licensees are responsible for timber harvesting, fire protection, and most road construction, maintenance and deactivation within cutblocks.

Auditors assessed these activities for compliance with FRPA, the *Wildfire Act*, applicable regulations and legal orders. Auditor's work included interviewing BCTS staff, reviewing the FSP and site plans, assessing silviculture records and reviewing field practices on site with BCTS staff. Auditors accessed sites by truck and by helicopter. Two forest professionals, one professional forester/geoscientist, and a chartered professional accountant made up the audit team. The audit team was in the field with BCTS staff from August 17 to 20, 2020.

The standards and procedures used to carry out this audit are set out in the Board's *Compliance Audit Reference Manual, Version 7.1, July 2016*.

Planning and Practices Examined

BCTS Responsibilities

Operational Planning

Auditors assessed BCTS operations against legal obligations contained in FRPA, the *Wildfire Act* and higher level plans.

During the audit period, BCTS operated under two approved FSPs; one in effect from 2014 to 2019 and the other from 2019 to 2024. Auditors examined both FSPs and stand-level site plans for consistency with legal requirements. During harvesting, road and silviculture field sampling, auditors also confirmed whether site plans accurately identified site conditions.

BCTS must comply with the legal obligations in the *Lakes North Order* and grand-parented objectives for the Lakes South landscape unit, as well as objectives in legal orders for landscape connectivity, old growth, ungulate winter range and mountain goat habitat and species at risk (SAR) notices for northern caribou and grizzly bear.

The orders and notices spatially identify areas where these objectives apply. BCTS plans and monitors its activities to ensure objectives are achieved.

¹ Major structure includes bridges and major culverts where:

- Bridge means a temporary or permanent crossing structure with a span length equal to or greater than 6 metres or an abutment height of 4 metres or greater.
- Major culvert has a pipe diameter of 2 metres or greater or a bottom arch with a span greater than 2.13 metres.

Road and Major Structure Construction, Maintenance and Deactivation

BCTS did not deactivate any roads or structures during the audit period.

Table 1. Population and Sample for Roads and Structures

ACTIVITY	POPULATION	SAMPLE
Road construction (FSR)	1.4 km	1.4 km
Road maintenance (FSR)	727 km	392 km
Bridge construction	1	1
Bridge & major structure maintenance	49	15

Silviculture Obligations and Activities

BCTS conducted planting and brushing silviculture activities, and had regeneration and free-growing obligations during the audit period.

Table 2. Population and Sample Silviculture Activities and Obligations

OBLIGATIONS AND ACTIVITIES	POPULATION (cutblocks)	SAMPLE (cutblocks)
Planting	49	5
Brushing	3	2
Regeneration obligations (due or declared)	54	14
Free-growing obligations (due or declared)	208	77

Timber Sale Licensee Responsibilities

Timber Harvesting

During the audit period, 27 timber sale licensees harvested 42 cutblocks, covering 2841 hectares. Auditors examined harvesting by 23 licensees on 32 cutblocks, totalling 2435 hectares.

Road and Major Structure Construction, Maintenance and Deactivation

Timber sale licensees constructed 98 kilometres of road, and maintained 125 kilometres of in-block and road permit roads. Auditors examined 69 kilometres of road construction and 80 kilometres of road maintenance. Timber sale licensees did not deactivate any roads nor construct, deactivate or maintain any major structures.

Wildfire Protection

Auditors examined fire hazard assessment and abatement practices and wildfire preparedness as part of the harvest sampling.

Table 3. Population and Sample for Wildfire Protection Activities

ACTIVITY	POPULATION (cutblocks)	SAMPLE (cutblocks)
Fire Preparedness at active work sites	2	2
Fire hazard assessment	23	23
Fire hazard abatement	37	28

Findings

The audit found that BCTS's planning and practices generally complied with FRPA and the *Wildfire Act* as of August 2020, however, the audit identified a significant non-compliance for bridge maintenance practices.

The audit found that the timber sale licensees' practices generally complied with FRPA and the *Wildfire Act* as of August 2020, however, the audit found that several licensees' fire hazard assessment practices require improvement.

BCTS Responsibilities

Maxan Creek Forest Service Road Bridge Maintenance

Section 75ⁱⁱ of the *Forest Planning and Practices Regulation* (FPPR) requires BCTS to address a known structural bridge deficiency to protect industrial users by repairing, closing, removing or replacing the bridge or by restricting traffic loads to a safe level.

On two concrete-deck bridges, which are part of the Maxan Creek Forest Service Road (FSR), auditors found damage to the guardrail anchor points of the bridge decks and the guardrails were not securely fastened. This damage was previously recorded in 2018 bridge inspections, recommending repairs to the guardrails. BCTS used the 2018 FLNRO Engineering Manual² to determine priorities for bridge maintenance. The manual does not define guardrails as a structural bridge component that directly affects structural integrity, so BCTS did not prioritize the repairs as a safety concern.

In 2019, a Forest Appeals Commission decision found guardrails are an important structural safety component of FSR bridges.³ Because BCTS did not repair the guardrails prior to industrial use, this is considered a significant non-compliance.

Subsequent to the audit, BCTS staff advised the Board that they replaced one bridge and posted a reduced load rating on the other bridge. They also modified their business process to recognize guardrails as a structural component and improve bridge inspection information sharing between BCTS, government engineers and road maintainers.

Operational Planning

The FSPs were consistent with FRPA, the orders and the SAR notices. The FSP incorporated the objectives in the orders and notices that apply to forest practices in the audit area. BCTS maintained accurate documentation of planning and operational activities. The files were accessible and complete.

Site plans were consistent with the FSP and addressed site-specific resources by accurately identifying and prescribing practices for resource features such as wildlife tree retention, visual quality, riparian areas, wildlife habitat and soils.

BCTS completed assessments at the landscape and operational (cutblock) levels where required. BCTS did not harvest or construct roads within the ungulate winter ranges or wildlife habitat areas. All

² FLNRO Engineering Manual <https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/resource-roads/engineering-publications-permits/engineering-manual>

³ Forest Appeals Commission decision 2018-FRP-001(a) found that guardrails are a structural safety component of a bridge. <http://www.fac.gov.bc.ca/forestAndRange/2018frp001a.pdf>

harvesting was outside of spatialized old growth management areas (OGMAs) and BCTS completed a-spatial analyses to confirm that old-growth objectives were met on landscape units where no spatial OGMAs are established.

Auditors noted no issues with operational planning.

Road and Major Structure Construction and Maintenance

Road Construction

Road construction was well done. Construction techniques were primarily conventional balanced bench methods on gentle to moderately sloped terrain. BCTS maintained natural drainage patterns and ensured that the roads were structurally sound and safe for industrial use.

Road Maintenance

Most of the roads BCTS is responsible for maintaining are considered wilderness roads.⁴ BCTS adequately maintained roads to retain the structural integrity of the road prism. All of the culverts examined were functional and water-management practices maintained natural drainage patterns. Auditors did not observe any road failures, and found that roads were safe for industrial traffic and culverts and ditch lines were functional.

Bridge Construction

Auditors did not identify any administrative or operational issues with the new structure sampled. All documentation was complete (general arrangements, structural drawings, fabrication drawings, record drawings and construction assurance statements), accurate and compliant with legislation. The structure was well constructed and safe for industrial use.

Bridge and Major Structure Maintenance

Other than the two Maxan Creek FSR bridges noted above, BCTS routinely maintained structures on FSRs, including implementing corrective actions recommended by government engineers. The sampled structures were well maintained.

Silviculture Activities and Obligations

BCTS planted cutblocks with suitable tree species and stock within the required timeframes. It monitored and tended its plantations to ensure it met free-growing requirements. Cutblocks contained the range of healthy, well-spaced, acceptable trees required to meet free-growing requirements within the required periods. BCTS met its regeneration, free growing and annual reporting requirements.

Auditors had no concerns with silviculture planning or practices.



Spruce-pine plantation at free growing milestone.

⁴ Wilderness roads are roads that do not have any industrial use. BCTS is responsible for maintaining the structural integrity of the road prism and clearing width, and ensuring the drainage systems of the road are functional.

Timber Sale Licensee Responsibilities

Harvesting

Harvesting was conducted in accordance with the requirements of legislation and site plans. Licensees used ground-based harvest systems. Natural drainage patterns were maintained, and wildlife tree retention objectives were achieved. There were few streams within cutblocks. Machine-free zones adjacent to streams and vegetation management helped to protect stream banks and channels. Soil disturbance was below the limits in the site plans and was well managed. Visual design techniques were implemented to screen harvest activities in scenic areas.

Auditors found no issues with harvesting.

Road Construction and Maintenance

Road Construction

Timber sale licensees constructed road permit roads and roads within cutblocks. Road construction was well done, including conventional balanced bench construction techniques. Auditors had no concerns with roads constructed by timber sale licensees.

Road Maintenance

Timber sale licensees are responsible for maintaining in-block roads and road sections connecting to FSRs. Licensees adequately maintained roads to retain the structural integrity of the road prism. Roads were safe for industrial traffic, culverts and ditch lines were functional and natural drainage patterns were maintained. Auditors had no concerns with road maintenance.

Wildfire Protection

Auditors found that timber sale licensees met fire-preparedness requirements. Timber sale licensees had emergency response plans, including a record of fire centre notification and fire hazard monitoring, and had sufficient firefighting equipment on site.

The *Wildfire Act* requires licensees to assess the fire hazard at specified intervals, including an assessment of the fuel hazard and the associated risk of a fire starting or spreading. Furthermore, the licensee must provide a copy of a fire hazard assessment to an official when requested. If the assessment identifies a hazard, it must be abated.

Auditors found that timber sale licensees effectively abated fire hazards within the required period. However, licensees did not assess the fire hazard on time for 13 of the 23 cutblocks sampled. A hazard assessment is a required step to determine if harvesting has created a fire hazard. If a hazard is identified and abated in a timely fashion, a licensee could demonstrate that it has been diligent.

While timber sale licensees are completing fire hazard abatement, some cannot demonstrate that they have been diligent in assessing the hazard, which is a non-compliance with legislation. This non-compliance is not considered significant, since fire hazards are being abated in an effective and timely manner, and this is an area requiring improvement.

In June 2019, BCTS implemented changes to its business process to improve timber sale licensees' compliance with hazard assessment requirements. Changes included a new Fire Hazard Assessment and Abatement Administration procedure, adding a clause in its timber sales licences document to highlight hazard assessment requirements and issuing a Timber Sale Licence – Fire Hazard Assessment and Abatement advisory bulletin. The non-compliance finding above involves cutblocks harvested prior to the implementation of these changes.

Audit Opinion

In my opinion, except for the bridge maintenance issue described below, the operational planning, timber harvesting, road construction and maintenance, silviculture, and fire protection activities carried out by BC Timber Sales and its timber sale licensees in the Burns Lake Field Unit, within the Babine Business Area, between August 1, 2018, and August 20, 2020, complied in all significant respects with the requirements of the *Forest and Range Practices Act*, the *Wildfire Act* and related regulations, as of August 2020. There is no opinion provided for road deactivation.

In reference to compliance, the term “in all significant respects” recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

As described in the *Maxan Creek Forest Service Road Bridge Maintenance* section of the report, the audit identified a significant non-compliance related to bridge maintenance.

Without further qualifying my opinion, I draw attention to the *Wildfire Protection* section of the report, which describes an area requiring improvement.

The *Audit Approach and Scope* and the *Planning and Practices Examined* sections of this report describe the basis of the audit work performed in reaching the above conclusion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board including adherence to the auditor independence standards and the ethical requirements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with *FRPA*, and *Wildfire Act*.



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Victoria, British Columbia
March 3, 2021

Appendix 1: Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders under the *Forest and Range Practices Act* (FRPA), section 122, and the *Wildfire Act*. Compliance audits examine forest or range planning and practices to determine whether or not they meet FRPA and / or *Wildfire Act* requirements. The Board conducts about 10 compliance audits annually. Most of these are audits of agreement holders. The Board also audits the government's BC Timber Sales Program (BCTS).

Selection of auditees

To begin with, auditors randomly select an area of the Province, such as a natural resource district. Then the auditors review the forest resources, geographic features, operating conditions and other factors in the area selected. These are considered in conjunction with Board strategic priorities (updated annually), and the type of audit is determined. At this stage, auditors choose the auditee(s) that best suits the selected risk and priorities. The audit selections are not based on past performance.

For example, in 2016, the Board randomly selected the Dawson Creek portion of the Peace Natural Resource District as a location for an audit. After assessing the activities within the area, it was noted that there were two community forest agreements that had not yet been audited by the Board. As the Board strives to audit an array of licence types and sizes each year, these two community forest agreements were selected for audit.

For BCTS audits, a district or timber supply area within 2 of the 12 business areas in the province are selected randomly for audit. Only those areas that have not been audited by the Board in the past five years are eligible for selection.

Audit Standards

The audits are conducted in accordance with auditing standards developed by the Board. These standards include adherence to the auditor independence standards and the ethical requirements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour and are consistent with Canadian generally accepted auditing standards. The standards for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board randomly selects an area or district and determines the scope of audit to be conducted and the licensee(s) to be audited, all activities carried out during the period subject to audit are identified (such as harvesting or replanting, and road construction or deactivation activities). Items that make up each forest activity are referred to as a population. For example, all sites harvested form the timber harvesting population and all road sections constructed form the road construction population.

A separate sample is then selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to areas

where the risk of non-compliance is greater. For smaller audits, the sample will include the full population.

Auditors' work includes interviewing licensee staff, reviewing applicable plans, assessing features from helicopters and measuring specific features like riparian reserve zone width using ground procedures. The audit teams generally spend three to five days in the field.

Evaluating the Results

The Board recognizes that compliance with the requirements of FRPA and the *Wildfire Act* is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

The audit team, composed of professionals and technical experts, first determines whether forest practices comply with legal requirements. For those practices considered to not be in compliance, the audit team then evaluates the significance of the non-compliance, based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

Auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet FRPA and *Wildfire Act* requirements.

Unsound practice – where the auditor identifies a significant practice that, although in compliance with FRPA or the *Wildfire Act*, is not considered to be sound management.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that one or more non-compliance event(s) is not significant and not generally worthy of reporting. However, in certain circumstances, these events may be reported as an area requiring improvement.

Significant non-compliance – where the auditor determines a non-compliance event(s) or condition(s) is, or has the potential to be, significant and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of one or more non-compliance events.

If a significant breach of the legislation has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Minister of Forests, Lands, Natural Resource Operations and Rural Development.

Reporting

Based on the above evaluation, the auditor then prepares a draft audit report. The party being audited is given a copy of the draft report for review and comment before it is submitted to the Board.

The Board reviews the draft report and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report. The representations allow parties that may potentially be adversely affected to present their views to the Board.

The Board reviews representations from parties that may potentially be adversely affected, makes any necessary changes to the report, and decides if recommendations are warranted. The report is then finalized and released: first to the auditee and then to the public and government seven days later.

ENDNOTES

ⁱ A forest stewardship plan (FSP) is a key planning element in the FRPA framework and the only plan subject to public review and comment and government approval. In FSPs licensees are required to identify results and/or strategies consistent with government objectives for values such as water, wildlife and soils. These results and strategies must be measurable and once approved are subject to government enforcement. FSPs identify areas within which road construction and harvesting will occur but are not required to show the specific locations of future roads and cut blocks. FSPs can have a term of up to five years.

ⁱⁱ FPPR - Structural defects

75 A person who maintains a road must do one or more of the following if a structural defect or deficiency occurs on a bridge that is part of that road:

(a) correct the defect or deficiency to the extent necessary to protect

(i) industrial users of the bridge, and

(ii) downstream property, improvements or forest resources that could be affected if the bridge fails;

(b) close, remove or replace the bridge;

(c) restrict traffic loads to a safe level;

(d) place a sign, on each bridge approach, stating the maximum load capacity of the bridge.



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