

## 6. Environmental and Social Action Plan (ESAP)

No.	Aspect	Action	Deliverable	Expected delivery date
<b>Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts</b>				
1	Environmental and Social Assessment	Undertake new <b>noise modelling</b> by including additional traffic due to PUMA II, noise guarantees for PUMA II equipment, and new (measured) acoustic baseline.	Updated noise study.	Six Months After Closing
2		Update <b>air dispersion modelling</b> considering recent changes in the Project's emission sources, documented (not guarantees) emission rates from Monte Alegre and PUMA I, emission performance guarantees for PUMA II, baseline concentrations of air pollutants, and validated meteorological data sets (wind speed/direction).	Updated air dispersion modelling.	Six Months After Closing
3		Taking into account 1 and 2 above, prepare a <b>cumulative impact assessment report</b> .	Cumulative Impact Assessment Report.	Six Months After Closing
4	Operating Procedures and Techniques	Update existing software (Plataforma Verde) or implement a new system to address PUMA II's unique <b>waste management</b> needs during construction and operation.	Updated or new PUMA II's waste management software.	One Month after Closing
5		Revise <b>chemical handling procedures</b> as part of internal EHS inspections.	Revised chemical handling procedures.	Six Months after Start-up
6		Review <b>land acquisition procedure</b> to include risk mitigating measures when the area is located within a predefined buffer of an indigenous or traditional community.	Updated land acquisition procedure.	Six Months After Closing
7	Organizational Capacity and Competency	Clarify PUMA II's <b>Organizational Structure</b> and Contractual Structure and how they will interact and coordinate. Identify roles and responsibilities of each entity.	Updated organizational structure charts for PUMA II construction.	One Month After Closing
8		Analyze the <b>social team's staffing needs</b> (e.g. projected workload, team skills set, etc.) for the next five years to ensure it is adequately staffed and has the appropriate expertise.	Analysis of social's team workload and updated staffing plan.	Three Months After Closing
9	Emergency Response Plan	Update PUMA's <b>Emergency Response Plan</b> to clearly delineate the Organizational Response Structure – in line with the requirements of PS1.	Updated Emergency Response Plan.	Three Months before Start-up
10		Implement <b>fire emergency</b> prevention and response measures at the residential buildings Bandeirantes and Sao Francisco to ensure workers can safely evacuate in the event of fire.	Evidence of implementation.	One Month After Closing

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11	Management Programs and ESMS	Develop an <b>ESH&amp;S-MS Manual</b> for PUMA II including the structure, responsibilities and stakeholders for PUMA II. Required subactions include: <ul style="list-style-type: none"> <li>• Structure of the Integrated Management System;</li> <li>• Procedures set out in the Management System;</li> <li>• Evidence of training of the construction management team; and</li> <li>• Evidence of the implementation of the Integrated ESH&amp;S-MS.</li> </ul>	Evidence of Integrated Management System (ESH&S-MS) implemented.	Three Months After Closing
12		Require PUMA II contractors and their sub-contractors to implement <b>OHS and environmental programs</b> consistent with PS1 .	Updated OHS and Environmental policies for contractors. Updated common OHS and environmental inspection checklists for contractors.	Two Months After Closing
13		Present updated <b>social baseline</b> for PUMA II and associated Social Investment Plan activities.	Scaled/Updated Social Investment Plan	Three months after Closing
14		Confirm <b>procedures and techniques</b> for industrial pulp and paper processes defined in the <b>IFC EHS Guidelines</b> after vendor selection and confirmation of the design and prior to start-up. These include: stormwater segregation, process containment, spill recovery, effluent treatment plant operation, non-condensable gases (NCG)/low concentration TRS gases system operation, and use of emergency basins.	Completion reporting for environmental systems and operating procedure development. Transfer of project mechanical information database (project book) to maintenance systems.  Confirmation of spill recovery systems configuration (containment areas and sumps/recovery system); stormwater systems (drainage areas and recovery/monitoring systems).  NCG system revision report.  NCG system final design.  Updated operation procedures	Final Report Six Months after Start-up  Three months before start-up  Three months before start-up  Three months before start-up  Final Operation Procedures Six Months after Start-up
15		Include procedures and techniques described in action item #14 above into Training; Process Improvement; Environmental Management and Maintenance programs.	Evidence of Inclusion of BAT techniques in training programs.	Within one month prior and after start-up
16		List the capacity (m3/hours) of main process and spill tanks, including White-water, Filtrate, Black Liquor, Green Liquor, Weak White Liquor (Wash), and White Liquor to show there is sufficient and balanced volumes of pulp storage, broke storage and white-water storage tanks to avoid or reduce process water discharges.	Updated project description and/or additional technical information to be provided.	One month before start-up
17		Review <b>process area containment</b> before start-up.	Evidence of process containment areas in place.	Before start-up

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<b>Performance Standard 2: Labor and Working Conditions</b>				
18	HR Management (Contractors Management)	Develop disciplinary procedures, and procedures to respond and investigate <b>sexual harassment and gender-based violence (GBV)</b> complaints.  Assure mandatory training for contractors' workers and management.  Assign a team of qualified individuals to handle sexual harassment and GBV complaints using a survivor-centered approach and ensuring confidentiality.	Documented procedures.  Communicating/training plan.  Evidence of conformation of a dedicated team to investigate/follow-up sexual harassment/GBV incidents.	One Month after Closing
19	OH&S (Correcting deviations and maintaining Policy, Standards and Procedures)	Ensure that Klabin's checklists for FSC controlled wood includes minimum requirements for contents and number of <b>first aid</b> equipment, according to the scale of the operation and the number of workers on-site  Disseminate OHS procedures for chainsaw harvesting operations among wood suppliers and contractors.	Revised internal guideline and checklists.  Documented evidence of disseminated OHS procedures for chainsaw harvesting operation.	Six Months After Closing
<b>Performance Standard 3: Resource Efficiency and Pollution Prevention</b>				
20	Numerical Standards (Air Emission, Effluent Emissions, Solid Wastes)	Develop a comprehensive <b>Numerical Standards</b> document with the standards for air emissions, effluents and waste generation that the project will adopt during its operation. Numerical standards should be the strictest among IFC EHS Guidelines, BAT 2001 and Brazilian regulations.	Numerical Standards document.	Three months before start-up
21		Update comparison of <b>air emissions and effluents</b> from PUMA II to Brazilian regulation and IFC EHS Guidelines to reflect the current Project configuration and design.	Comparison report based on updated design specifications.	Three months before start-up
22		Revise <b>SO2</b> emission levels from PUMA II. Future operating conditions should be estimated based on PUMA I operational data and expectations; not necessarily on design maximum values. [Note that performance guarantees are now based on low sulfur fuel oil 1A and 1B]. If analysis shows non-compliance, measures (flue gas scrubbing or desulphurisation technology) should be investigated and incorporated into the design.	Estimation of SO2 emissions.  Updated design, if necessary.	Three months before start-up
23		Revise <b>NOx</b> emission levels from PUMA II. Future operating conditions should be estimated based on PUMA I operational data and expectations; not necessarily on design maximum values. If analysis shows non-compliance, Klabin must confirm that all reasonable (firing control) methods are being used to minimize NOx emissions in the Recovery Boiler and Lime Kiln.	Reassessment of performance numbers from boilers and kilns.	Three months before start-up

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24		Adapt <b>ambient water quality monitoring program</b> to understand the the cumulative impact of effluents from Klabin's operations (PUMA I, PUMA II, Monte Alegre mills, Monte Alegre Forest Management Unit) in the Tibagi watershed.	Updated water monitoring program.	Six months after Closing and then ongoing monitoring
25		Expand or build additional <b>agrochemicals storage facility</b> adjacent to the Lagoa Nursery to address lack of sufficient spill containment and working space, and availability of protective clothing. Klabin will also ensure that safety data sheets are easily available to workers.	Expanded/additional agrochemicals storage facility adjacent to the Lagoa Nursery.	December 2020
<b>Performance Standard 4: Community Health, Safety, and Security</b>				
26	HR Management (Gender Based Violence and Sexual Harassment)	Engage the services of specialized organization(s) to implement <b>GBV prevention</b> programs for target groups (children, adolescent groups, sex workers, etc.) in the Project area and in hotspots along transportation corridors.  Identify, across the Project's area of influence, gaps in psychosocial, medical, police and judicial response services to GBV survivors and present them to the Anthropic Monitoring Committee.	Engagement with third-party GBV specialized organization(s) and/or networks.	One month after Closing
27	Community Health and Safety - Silvicultural Activities	Assess/analyze the risk related with <b>fires</b> (modelling for PUMA II expansion) and ensure the availability of the resources needed to mitigate this risk.	Fire risk assessment (Increase of fire events) and fire prevention and response plan.	Six Months After Closing
<b>Performance Standard 7: Indigenous Peoples</b>				
28	Human Resources	Confirm hiring of <b>anthropologist</b> to be in charge of the implementation of the Indigenous People action plan (PBAI).	TOR and contract of anthropologist.	Three Months after Closing
29	Organizational Capacity and Competency	Put in place <b>communication/training</b> to prevent discrimination and harassment of traditional groups and communities (indigenous and non-indigenous) by <b>Klabin's and contractor's personnel</b> engaged in PUMA II as done for PUMA I.	Anti-discrimination/anti-harassment campaign.	Three Months after Closing
30		Strengthen <b>communication/training</b> regarding procedures of relationship with traditional groups and communities (indigenous and non-indigenous) – mainly for <b>drivers</b> and workers in <b>patrimonial security</b> .	Updated communication/training plan.	Three Months after Closing