



Environmental and Social Review Summary

Bulleh Shah Packaging Mill and Karachi Plant

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed prior to the date on which MIGA's Board of Directors considers the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by MIGA's Board of Directors. Board dates are estimates only.

Any documentation that is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

Country:	Pakistan
Sector:	Manufacturing – pulp, paper, and packaging
Project Enterprise:	Bulleh Shah Packaging (Private) Limited (Bulleh)
Environmental Category:	B
Date ESRS Disclosed:	25 January 2013
Status:	Due Diligence

A. Project Description

MIGA has been asked to provide a Guarantee for Stora Enso's participation in a newly formed joint venture (JV) limited liability company in Pakistan to be called Bulleh Shah Packaging (Private) Limited (Bulleh). Its JV partner is Packages Limited of Pakistan (Packages), the local sponsor currently operating several pulp, paper and packaging manufacturing sites in Pakistan, including Bulleh Shah Paper Mill (BSPM). Bulleh (the Project Enterprise / Project) consists of two existing business units (manufacture of paper and consumer board and of corrugated packaging) which are carried out at two existing facilities (BSPM, and Karachi Plant).

Bulleh Shah Paper Mill (BSPM)

The Bulleh Shah Paper Mill (BSPM) is located about 15 km from the city of Kasur. Manufacturing operations started in July 2007. Key processes are (i) a 600 tons per day (tpd) slushing line for old corrugated containers (OCC); (ii) a 110 tpd wheat straw chemical thermo mechanical pulp (CTMP) line; (iii) a 220 tpd de-inked pulp line; and (iv) two paper / board machines, PM-6 (a 390 tpd consumer board line) and PM-7 (a 330 tpd printing and writing paper machine). These process lines are supported by steam and electricity generation systems and effluent treatment facilities. In 2011, BSPM produced 103,632 tons of paper and board.

PM-6 has a capacity of 140,000 tons per annum (tpa) and currently produces consumer board, and a small quantity of container board. The product portfolio of PM-6 will be expanded to include Liquid Packaging Board for milk and juice cartons; Folding Boxboard for packaging to the fast moving consumer goods (FMCG) market, and white lined chipboard to FMCG.

PM-7 produces copy paper, various specialties and a small amount of light weight fluting with a capacity of 115,000 tpa. The majority of the container board produced on PM-7 is intended to supply the two corrugated converting operations in BSPM and Karachi, which will use the container board to manufacture corrugated transport boxes.

Karachi Plant

The Karachi operations are located within Karachi on an approximate 1.35 hectare plot in an industrial area (plots No.6 and 6/1, Sector 28, Korangi Industrial Area, Karachi). No pulping is carried out at this site. The plant in Karachi is a small-sized facility that started producing corrugated cartons in 2002. It includes one corrugated board converting unit with one corrugator (1830 mm wide), one 3-colour printer, and partition and stitching machines. Production volumes were 18,000 tpa in 2011.

Inputs for the Project

The raw materials required by the Project are sourced locally. The Project will continue to employ a wheat straw-based pulping process, and has developed an improved system for collection of clean straw. Wheat straw is supplied from wheat fields of Punjab province, and is stored at various Project straw collection centers. These collection centers are operated and monitored by the Project and relevant environmental, health and safety requirements apply.

Recycled and waste paper is partly sourced from bigger cities and towns in Pakistan, with the bulk imported from overseas. Other inputs include minimal quantities of wood pulp required to provide minimum paper strength and imported chemicals sourced from the local market.

Both facilities supplement their electricity requirements delivered from the national grid with onsite power generation. Currently, boilers are operating on a 50/50 gas/heavy fuel oil mixture due to the lack of availability of gas in the country. In order to ensure consistent and adequate power supply, the BSPM is in the final design and environmental and social assessment stages for a proposed 30 MWe capacity biomass fired boiler¹. Once the biomass boiler becomes operational, the existing dual fuel boilers at the BSPM will be used as reserve power sources.

Project Activities

BSPM operations are strategically located to serve a customer base in the Lahore/ Islamabad region and are also near railroad access. Karachi operations serves Sindh region of Pakistan. The Project plans to improve efficiency of existing operations by rebuilding existing paper machines, to expand product lines to include production of coated liquid paperboard, and to foster consistent high quality outputs. The Project will continue supplying to the domestic market and will have both multinational and leading local companies as customers.

¹As part of future plans, a biomass boiler feasibility study has been conducted including a comparison of alternative energy concepts. Biomass is a competitive fuel in Pakistan and is about the same price as gas, with fuel oil being more than 3 times as costly as gas. Based on market studies, sufficient biomass is currently available and the boiler will be designed to accommodate several different types (e.g., wheat straw, corn stover, cotton stalk, etc.) The boiler will be designed so that a uniform and efficient fuel combustion system can be maintained. The boiler is planned to start up around the end of 2014.

Packages Limited (Packages), the local JV partner, is the leading integrated paper products manufacturer in Pakistan and has been an IFC client since 1964. In 2005 IFC supported the construction of the BSPM (see [ESRS](#)), with the most recent IFC support in 2009 (see [ESRS](#)).

MIGA's review is largely based on IFC's review and ongoing monitoring of Packages and BSPM, and is supplemented by review of documentation provided by the client.

B. Environmental and Social Categorization

This is a Category B project under MIGA's Policy on Social and Environmental Sustainability because a limited number of specific environmental impacts may result which can be avoided or mitigated by adhering to generally recognized performance standards, guidelines or design criteria. The key environmental and social issues associated with this brownfield Project are occupational health and safety, management of emissions to air and water, traffic impacts arising from the transport of raw material and finished goods, supply chain management, and community development.

C. Applicable Standards

While all Performance Standards are applicable to this investment, MIGA's environmental and social due diligence indicates that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS1: Social and Environmental Assessment and Management Systems;
- PS2: Labor and Working Conditions;
- PS3: Pollution Prevention and Abatement;
- PS4: Community Health, Safety and Security.

The Project is operating at two sites: BSPM which was formerly agricultural land dependent upon irrigation, hence a highly modified habitat, and which has been owned by Packages since 1992, and the Karachi facilities are located within an industrial zone and has been owned by Packages since July 2002. Economic displacement as included in Performance Standard 1 is not anticipated in relation to the supply of raw material as wheat straw is abundant in the area, and other potential sources of biomass are currently viewed as waste product not being used by others, informally or formally. Issues related to Performance Standards 5, 6, 7, and 8 were not identified during review and are not expected.

Future activities carried out by the Project (such as establishment of new collection centers for wheat straw or recycled paper, installation and operation of a biomass boiler, etc.) will be required to be managed in a manner consistent with the Performance Standards.

D. Key Documents and Scope of MIGA Review

The following documents were reviewed by MIGA:

- Environmental permitting for some aspects of the Project;
- IFC's environmental performance monitoring data; and
- Feasibility studies and preliminary environmental and social assessment information pertaining to the proposed biomass boiler.

Due diligence included correspondence and discussions with Stora Enso on various environmental and social (E&S) issues, including E&S monitoring information for Karachi operations, supply chain management, site security, firefighting resources, and E&S management and reporting. As part of ongoing monitoring, IFC environmental staff visited BSPM in April 2012. MIGA has relied on IFC's review and due diligence of BSPM and of Packages, and some material for this ESRS originates from IFC's 2008 ESRS.

E. Key Issues and Mitigation

The following sections describe how the Project does or plans to mitigate potential social and environmental issues in compliance with the Performance Standards.

PS1: Social and Environmental Assessment and Management Systems

Social and Environmental Assessment: The Bulleh Shah Paper Mill development was subject to assessment by the Pakistani authorities who issued permits to construct and operate the facility conditional upon Packages fulfilling certain conditions, particularly related to community development, which has been done. In addition, an environmental and social impact assessment was undertaken by a local consultant in support of IFC financing for BSPM in 2005. Since operations began in 2007, a hazards and operability ("HAZOP") review was undertaken for the BSPM and recommendations were implemented.

BSPM and Karachi operations have received all their necessary local permits and continue to operate in material compliance with these conditions. Environmental permitting by the regulatory authorities has been initiated for the proposed biomass boiler at the BSPM. An environmental and social impact assessment addressing the Performance Standards will be disclosed by the Project as per PS 1 requirements, and subject to review by MIGA once the feasibility studies have been completed.

Management Program (including Organizational Capacity and Training): Using Stora Enso's expertise, the Project will build upon Packages' well-established continuous improvement culture, which is driven by the company's department of Industrial Performance. This department liaises with Packages' technical and production management departments, and has been responsible for management of Packages' environmental performance since 2005. Since early 2007, this department has also been responsible for occupational health and safety, taking this responsibility from the team in charge of premises safety and security. In both areas, the department has established implementation structures, through process improvement teams, has employed external trainers for staff capacity building (including contractor staff) and has established results monitoring protocols. Data are disseminated within the Company including to senior management level. Environmental, health, and safety (EHS) staff from BSPM oversee EHS performance at Karachi, and are available at both facilities.

BSPM operations has been certified compliant with ISO 14001 (environmental management) and OSHAS 18001 (occupational health and safety management). BSPM developed a hazard analysis and critical control points (HACCP) (food safety) system (ISO 22001) for its food packaging materials business and achieved certification in 2011. ISO 14001, OSHAS 18001, and ISO 22001 certification will be maintained at BSPM by the Project. Karachi's OHS system is based on OSHAS 18001 and has undergone safety management system audits although it is not certified.

Monitoring: Packages has established ongoing environmental monitoring programs for its existing operations, including ambient air quality, stack emissions, water discharge, and noise surveys. Its operations are generally in compliance with IFC requirements. Existing environmental and social management plans and procedures will be reviewed and improved where necessary to meet the corporate policies of Stora Enso and to ensure compliance with the Performance Standards. Improvements to operations are being made, as discussed under PS 3.

Monitoring is carried out by the Project's existing Industrial Performance department and findings are reported to senior management on a monthly basis. In addition, third party health and safety monitoring has been carried out by some of Packages' clients. Annual environmental and social performance monitoring and reporting will continue.

The Project will continue to monitor the EHS performance of its contractors, as included in the overall EHS monitoring of the Project.

Community Engagement: Packages currently has relatively little community development engagement in its own right, though it does contribute to community development through the Babar Ali foundation to which it donates some financial resources and also senior staff time. The Project will establish a corporate social responsibility policy which will fulfill the commitments of both joint venture partners (Stora Enso and Packages). The Project will continue current community development work in Kasur, and after consulting with local stakeholders and potential non-governmental partners, it will initiate community development in areas where wheat straw is collected and locally recycled paper is sourced.

Packages has established a community development committee to manage community development activities in the area around BSPM. Through this committee Packages does engage with the communities around the mill, and so this communication channel provides a community grievance mechanism. At an early stage of development of the mill, meetings were held with local people in order to identify the hopes and concerns of the communities, and these have been taken into account in planning community development activities. The Project will likely continue following a similar approach to supporting stakeholder engagement in community development.

PS2: Labor and Working Conditions

Stora Enso will have management control of the Project and appoint the key management positions. Stora Enso will also provide a stream of short-term resources and train key local Project staff in Stora Enso mills abroad, which together with management, will build organizational capabilities, implement a Stora Enso culture (leadership, values, code of conduct,

business practices, processes, procedures), manage projects and efficiently drive improvements. In general, the Project will build upon the labor policies and procedures currently used by Packages.

The Project employs approximately 1000 staff. It is anticipated that the Project is expected to create 840 local jobs during the rebuilding of the existing paper board machines (“construction”).

Working Conditions and the Management Worker Relationship: Packages has comprehensive human resources policies and procedures which are documented in the company’s “Company Service Rules.” An abbreviated form of this document is provided as a booklet to each employee, and is available to all employees through the company’s intranet. The working relationship is communicated to employees through the booklet described above and through the written letter of appointment.

Packages does have a trade union, through which collective bargaining agreements are made, and which can represent worker grievances. Both salary and non-salary benefits are competitive, and Packages’ contributory employee welfare scheme is particularly appreciated.

While Packages does not have a formal policy covering these matters, the company strictly adopts policies of non discrimination, be it gender, religious or inter-provincial discrimination. The Project will continue to apply a similar approach to human resources.

Packages youngest employee is 18 years of age. The Project purchases recycled paper (e.g., office paper, used beverage cartons, old corrugated containers (OCC), and other types of cardboard) through a complex supply chain which includes formalized waste paper collection from paper product users, as well as a small percentage coming from the informal sector. Packages and IFC have been collaborating since 2010 to support fewer and more stable and formal significant waste paper suppliers. This initiative also includes supplier training for technical issues (quality, sorting, baling, etc.) and safety measures (personal protective equipment requirements based on job hazards, firefighting capabilities and equipment, and safety procedures). The Project is aware of the risk of child labor in the supply chain, mainly related to small-scale family farming and harvesting of wheat, and in the informal waste paper collection sector. The Project plans to minimize and avoid child labor in its supply chain through these additional measures:

- Contractual obligations with suppliers to not support child labor (with encouragement that suppliers also include this requirement within their own supply contracts);
- Monitoring status of suppliers; and
- Developing screening model.

The Project is reviewing the family harvesting practices of wheat straw as part of the Project’s wheat straw supply chain.

Supply chain management will be addressed as part of the sustainability goals of the Project and will be overseen by newly created positions, Sustainability Director and Supplier Sustainability Auditor. Policies, systems and process will be developed and implemented to monitor sustainable business practices for both existing and future supply chains. MIGA will continue to receive updates from the Project on this issue.

Occupational Health and Safety (OHS): Packages has been very active since early 2007 in management of occupational health and safety matters, building upon earlier work in this area. Risk assessments have been undertaken and risk control measures defined across the BSPM and Karachi sites, and findings addressed. Safety procedures have been developed describing approaches for incident and accident investigation, lock-out, tag-out, confined spaces, hot works, working at height, and safe storage and use of compressed gases, etc. In addition to installing and maintaining machinery guarding and providing personal protective equipment, Packages has introduced behavior modification campaigns. Packages believes its accident recording is more systematic than ever before, and incidents (near misses) are now investigated. In addition, there is a new-found resistance to identify operator error as a cause of an accident, which instead would most likely be attributed today to inadequate training or supervision. The Project will continue to improve OHS performance.

For 2011, over 1500 man hours of safety-related training has been provided to staff at the BSPM site, and more than 33 man hours at Karachi. In 2011, Packages reported 18 lost time accidents and no fatalities over 3,159,936 man hours worked (BSPM employees and contractors).

In addition to posting first aid kits and ensuring first aid training is provided to key staff, the Project will continue to provide medical services for employees and families at the medical center. A company doctor is available on site and at the designated clinic in the city.

Fire, Life, Safety: Emergency response preparedness and planning has been addressed by the Project in several ways, including carrying out an internal fire risk assessment for BSPM and Karachi, implementation of emergency response procedures, monthly inspections of firefighting equipment, random inspections, monthly fire drills, and daily safety walks carried out by EHS specialists. The Central Safety Committee and Department Safety Committees coordinate and assist in the protection, rescue, and salvage operation within their respective areas.

All wheat storage centers are equipped with firefighting equipment and systems. Several upgrades to these systems have been identified and will be carried out over the next year. Fire, life and safety precautions will also include lightning protection as appropriate.

PS3: Pollution Prevention and Abatement – BSPM and Karachi

The Project has committed to meet current relevant World Bank Group (WBG) Environmental, Health, and Safety (EHS) Guidelines. Related infrastructure developed in the future, such as power generation, will be subject to current WBG EHS guidelines.

Resource Efficiency: Packages manufactures pulp from wheat straw through the CTMP pulping processes. Wheat straw is an agricultural waste in this part of Pakistan. Packages also recycles paper and card in its operations at BSPM and minimizes its use of wood pulp consistent with maintaining adequate paper strength.

BSPM is designed to be an efficient user of utilities and opportunities to improve resource efficiency are always being considered. Energy awareness trainings on various utilities and equipment (e.g., lighting, air compressors, process equipment, etc.) were carried out within Packages to stimulate resource efficiency planning and consideration. In addition, although the

design specific water use of 34 m³/ton has not yet been reached, additional water metering and a number of projects to reduce water consumption continue to be implemented. The Project will continue to seek resource efficiency opportunities related to its operations. Rebuilding the paper machine / boards at BSPM is expected to lead to energy and water efficiencies.

Air Emissions, BSPM: Air emissions at BSPM arise from a gas turbine based cogeneration system and a gas-fired power boiler. Emissions are monitored regularly and are well within IFC guidelines and local requirements. Packages has monitored NOx levels at its boundary and found these to be below detection level. Based on the monitoring carried out by Packages, its operations have not caused deterioration in ambient air quality, and it is unlikely that the Project's proposed rebuilding of the PMs and production expansion activities will cause deterioration.

Air Emissions, Karachi: Activities carried out at this site are limited in their ability to result in impacts to air quality. Water based glues are used at this facility as part of corrugating cardboard. The Project will carry out workplace air quality monitoring and air quality monitoring near the boiler.

Neither the BSPM nor Karachi facility emits volatile organic compounds (VOCs), thus VOC monitoring is not applicable.

Liquid Effluents, BSPM: BSPM was treating its liquid effluents with a only primary clarifier from December 2007 until commissioning its first aeration lagoon in July 2008, and this is designed to treat effluents arising from PM-6, OCC slushing and the straw CTMP line to IFC guideline values. A second aeration lagoon was constructed, and commissioned with the start of the second paper machine (PM-7) and its supporting de-inked pulp line in August / September 2008. National energy shortages have disturbed production, which in turn has decreased the operational efficiency of the effluent treatment plant, and therefore the effluent standard has not meet IFC guidelines. However, the waste water treatment plant design suggests that satisfactory operation of the first lagoon (for PM-6 and supporting pulping) and then both lagoons together will treat liquid effluents to IFC guideline requirements for non-wood pulping. It is anticipated with reliable power supply, improved monitoring of the aeration basin, and ongoing training of the operators, effluent will be treated to meet relevant parameters

Packages have ensured that the Project's production processes employed and effluent treatment technologies adopted use best available techniques. This will be supported and enhanced by Stora Enso's expertise to the Project.

Liquid Effluents, Karachi: In converting activities, waste waters are mainly formed in the printing process and glue handling. The quality of effluent is regularly monitored. After effluent settles in a holding tank (and sludge is removed), the waste water continues to the main municipal sewerage system.

Wastes: Varied solid wastes arise from pulp and paper making. Wastes, such as plastic bags which are collected from waste paper pulping are sold for use as fuel in the local brickmaking industry. Effluent treatment plant sludge is pressed and sold for use as a board filling material. Some grains and clean straw residues result from straw washing – these are sold as animal feed. Other material such as stones and mud separated from straw cleaning are sold for use in land

filling. Garbage and hazardous wastes are removed from the sites by authorized contractors for off-site disposal.

Hazardous Materials Management: Packages has a complete inventory of all hazardous materials used at both sites, and has material safety data sheets for all. Dedicated stores are used for hazardous materials, and these have been strengthened considerably over the last several years. Procedures for safe management of hazardous materials have been reviewed and where necessary developed and training provided in the use of these within the context of the OHS work described above.

Greenhouse Gas Emissions: Annual emissions of greenhouse gases are above the reporting threshold limit of 100,000 tpa CO₂e, and the Project will continue to quantify its GHG emissions on an annual basis.

Ground Water: Studies were undertaken before construction to predict the effect of the BSPM on ground water availability, and it was concluded that the effect would be very limited. Ground water level monitoring is undertaken at three locations within BSPM and has shown marginal effect of Packages activity. Activities carried out at Karachi are limited to manufacturing corrugated cardboard, and thus impacts to groundwater are not likely.

Effluent discharges, BSPM: BSPM discharges to the Pandoki-Doftoh drainage ditch. This was originally constructed as a means to remove shallow, saline ground water, when the substantial irrigation scheme in this area was planned more than 100 years ago. The ditch is an ephemeral stream, completely full at times and dry at others. At times therefore, the ditch will contain Packages effluents only. Some distance downstream of Packages, the ditch accepts effluents in Kasur, including from the town's tanneries. Packages has constructed one deep tube well, to provide clean water for farm animals, and has opened discussions with its community development committee on constructing additional wells should demand be demonstrated.

Effluent discharges, Karachi: Karachi effluent is settled at the site in a settling tank and then released into the municipal collection system.

PS4: Community Health, Safety & Security

Transport Impacts: Packages has developed a regional network of straw collection centers which have straw baling machines. These are used to compress straw delivered to each site for use as raw material, thus considerably reducing road traffic required for straw transport.

Packages has developed a rail siding at a short distance (around 12 km) from BSPM, and uses rail containers (rather than road) to transport finished paper to Karachi for export or for its converting operations in Karachi and also to transport imported raw materials from Karachi port. Roads local to BSPM have been widened and road surfaces metalled. Karachi Plant is located near major roads. Packages stresses the need for safe, defensive driving to all its transport operators. The Project will continue to promote safe driving and monitor traffic management.

Security Arrangements: Both existing facilities are fenced with controlled access points. Security guards stationed at BSPM and Karachi are employed directly by the Project, and security for the workers' accommodation (expatriate staff) is contracted through a third party. Security companies are verified by the Government of Pakistan Homeland Security, and the security clearance of guards is carried out by the Police. Security arrangements will continue to be overseen by the current Site Security Manger. Ongoing training will be provided and rules of conduct will be formalized as part of the security management and monitoring process.

F. Environmental Permitting Process and Community Engagement

The Environmental Protection Agency does not require submission of Project monitoring reports. To date, the Project has not received notification of non compliances or fines.

Packages actively engages with the community around BSPM through the community liaison board described above. Through this process the activities of BSPM are generally known to the surrounding communities. This process will continue. The Project will identify stakeholders and carry out consultations related to ongoing performance as well as consultations related to new initiatives proposed for the Project, as per the requirements of Performance Standard 1.

Several community development projects have been realized including provision of a deep tube well for drinking water, renovations to buildings and provision of safe drinking water and sanitary facilities at 9 schools, establishment of maternity clinics in the BSPM area, and widening of the road serving the BSPM.

G. Availability of Documentation

This ESRS will be made available for local review at the BSPM and Karachi facilities – outside the gatehouse at each site. Addresses are:

- Packages Limited, Bulleh Shah Paper Mill, 10 – km, Kasur Kot Radha Kishan Road, District Kasur, and
- Karachi Factory, Plot No. 6 and 6/1, Sector 28, Korangi Industrial Area, Karachi.

The ESRS will also be posted at the wheat straw collection centers.

For further information about the Project, please contact the following person at Stora Enso:

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The [ESRS](#) related to the equity investment in Packages was disclosed by IFC since October 2008, and [IFC's Environmental Review Summary](#) for the construction of the BSMP since April 2005.