Environmental and Social Review Summary

Securitization of Four Healthcare Facilities

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: Peru
Sector: Health Services
Project Enterprise: Seguro Social de Salud del Peru- ESSALUD
Environmental Category: B
Date ESRS Disclosed: February 7, 2012
Status: Due Diligence

A. Project Description

The proposed project is the securitization of contractual payment rights issued by Seguro Social de Salud (“Essalud”) to various third-party private-sector operators (“Operators”) for the provision of healthcare services in the Lima metropolitan area. Essalud is an autonomous public institution established in 1999 to provide healthcare coverage to private- and public-sector employees in the Republic of Peru. The Operators will be responsible for the design, construction, equipping, operation and maintenance of new health care facilities and related infrastructure. These facilities include: (i) Villa Maria Hospital, a new tertiary-care hospital; (ii) Callao Hospital, a new tertiary-care hospital; (iii) Callao Primary Care Center, a new outpatient medical center; (iv) Trecca Tower Medical Center, a new outpatient medical center; (v) Central Distribution Center; and (vi) Sabogal Distribution Center, two new distribution centers for the supply of medicine and materials to the Essalud network of hospitals, clinics and private pharmacies in the Lima Metropolitan Area.

Villa Maria Hospital: Villa Maria Hospital is located in an urban area on a 2.6 ha parcel of land at the intersection of Av. 26 de Noviembre and Av. Defensores de Lima in the Villa Maria del Triunfo District of Lima Province, approx. 26 km south of the historic center of Lima. The level 3 hospital will be developed as a campus comprised of 3 structures: a 4 story building and approx. 2,000 m² building for primary care services; a 4 story building and approx. 15,000 m² building for admissions, administration, offices, pharmacy, rehabilitation, emergency, obstetric center, hemodialysis, diagnostics (imaging and biomedical), outpatient surgery, intensive care unit, surgical center, and central sterilization unit; and a 6 story building and approx. 10,000 m² building for maintenance, warehousing, morgue, staff dressing room, kitchen, cafeteria, and hospital wards (pediatrics, gynecology and obstetrics, internal medicine and surgery). The hospital is scheduled to begin operations in [January 2014], with construction scheduled to begin in [January 2012] and will be
completed on an 18-month schedule, with an additional 6-months required for installation and testing of medical equipment. The hospital is expected to have an operational life span of 50 years.

**Callao Hospital:** Callao Hospital is located in an urban area on a 2.4 ha parcel of land on Av. Argentina in the Province of Callao, approx. 2 km immediately south of Jorge Chavez International Airport and 10 km west of the historic center of Lima. The Province of Callao is located along the coast immediately to the west of Lima Province. The four storey and approx. 24,000 m² level 3 hospital will provide the following services: administration, outpatient, diagnosis and treatment, hospitalization, surgical center, emergencies, birth center, pediatrics, central sterilization, intensive care, research, training, nutrition, x-ray, laboratory, pharmacy and morgue. The hospital is scheduled to begin operations in approximately January 2014, with construction scheduled to begin in approximately January 2012 and will be completed on an 18-month schedule, with an additional 6-months required for installation and testing of medical equipment. The hospital is expected to have an operational life span of 50 years. Callao Hospital shares the same Operator as the Callao Primary Care Center and the two facilities are complimentary.

**Callao Primary Care Center:** Callao Primary Care Center is located in an urban area on a 2,225 m² parcel of land on Av. Saenz Peña in the Province of Callao, approx. 6 km southwest of Jorge Chavez International Airport and 13 km west of the historic center of Lima. The three storey and approx. 2,300 m² outpatient facility will provide the following services: administration, consultation, diagnosis and treatment, emergency, x-ray, laboratory, and gymnasium. The center is scheduled to begin operations in approximately January 2014, with construction scheduled to begin in approximately January 2012 and will be completed on an 18-month schedule, with an additional 6-months required for installation and testing of medical equipment. The center is expected to have an operational life span of 50 years. Callao Primary Care Center shares the same Operator as the Callao Hospital and the two facilities are complimentary.

**Trecca Tower Medical Center:** Trecca Tower is an unfinished 23 storey building located on 5588 m² parcel on Av. Arenales in the Jesús María District of Lima Province. Construction first began on the structure in 1971 and continued off and on until all work was ceased in 1990. The project will renovate and expand the existing structure for the purpose of operating a medical center for outpatient diagnostic and treatment health care services, including: general medicine, geriatrics, gynecology, pediatrics, lung, ophthalmology, urology, dermatology, cardiology, urgent care, among other specialities. The building will also feature laboratory, imaging and pharmacy services, as well as lounges and changing rooms for approx. 1000 health care professionals. The center is scheduled to begin operations 18 months after construction period is initiated. Construction period is estimated to start by the end of first quarter 2012, time for which all the corresponding municipal authorizations should be obtained.

**Central Distribution Center:** The Central Distribution Center is a logistics warehouse located on a approx 2.5 ha parcel adjacent on Av. Enrique Meiggs in the Province of Callao, approx. 0.5 km south of Jorge Chavez International Airport and 10 km west of the historic center of Lima. The warehouse will be used to store medicines, medical devices and related medical equipment. The products will be stored corresponding to the groups: general medicines, controlled drugs (cytostatics, psychotropics and narcotics), medical supplies and furniture. Built in a land of 29,970 m2, has a building area of 8339.79 m2 and a storage area of 6075.58 m2, It will feature a
60 m² cold storage room, hazardous/flammable material storage (solvents and paints, alcohols, benzene and other substances), climate control and ventilation to maintain temperatures below 25 °C and backup generators. The one storey design features a concrete slab, columns and beams with pre-cast concrete structure with concrete footings and foundation, thermal insulated and flame retardant walls and roofing material and a mezzanine level with offices. Unique in Peru, the warehouse has highly flexible infrastructure and technology, with the best practices of storage and safety standards and international quality certification that guaranteeing integral of all processes. With a modern store have 7 levels of storage, 7500 positions, and flexible system for management of stocks, modern installment systems such as drive-in and flow racks. During all warehouse operations, medicines and materials entered are subject to strict controls to ensure their good condition and quality and traceability. From this central repository ensures the availability of stocks, as well as providing fast, timely and efficient for the entire network of hospitals and health centers in Lima and Callao with vehicles or reliable transportation to GPS (Global Positioning System)

The warehouse commenced operations in a temporary location in February 2010. Construction of the new warehouse started in May 2011 and will be completed in November 2011. The store was designed and will be operated by SALOG S.A., a local company specialized in logistics systems for hospitals, public and private health systems

**Sabogal Distribution Center:** The Sabogal Distribution Center is a logistics warehouse located on a 668 m² parcel adjacent the Essalud Alberto Sabogal Hospital on Calle Colina in the Province of Callao, approx. 5 km south of Jorge Chavez International Airport and 11 km west of the historic center of Lima. The warehouse will be used to store medicines, medical devices and related medical equipment. The products will be stored corresponding to the groups: general medicines, controlled drugs (cytostatics, psychotropics and narcotics), medical supplies and furniture. The one storey design features a concrete slab, metal structure with concrete footings and foundation, thermal insulated and flame retardant walls and roofing material and a mezzanine level with offices. The warehouse commenced operations in a temporary location in February 2010. Construction of the new warehouse started in May 2011 and will be completed in November 2011. The warehouse is operated by SALOG, a local logistics company.

**B. Environmental and Social Categorization**

This project is categorized B under MIGA’s Policy on Social and Environmental Sustainability because the potential risks and impacts are limited, few in number, site specific, largely reversible and readily addressed through mitigation measures. Key social and environmental risks and impacts include: erosion, runoff, hydrocarbon spills, dust, noise and vibration, traffic and worker health and safety during construction; and, life and fire safety, hazardous materials, solid waste, medical and bio-hazardous waste, air emissions, wastewater, and worker and community health and safety during operation. These risks and impacts are expected to be mitigated through interventions outlined in the respective environmental management plans for each facility to limit negative impacts of the project to the environment and communities.

**C. Applicable Standards**
While all Performance Standards are applicable to this investment, based on our current information 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 & Security

Performance Standards 5, 6, 7, and 8 do not apply to this project. All land where projects will be constructed is owned by Essalud and no involuntary resettlement or livelihood impacts were identified. There are no identified risks or impacts to biodiversity or natural resources. No geographically distinct habitats or ancestral territories were identified in the project area to identify risks or impacts specific to indigenous peoples. The Peru National Culture Institute has surveyed each site and did not identify cultural heritage; each Operator is required to comply with the laws of Peru regarding cultural heritage, as well as implement chance finds procedures.

In addition to the Performance Standards, the following World Bank Group Environmental Health and Safety (“EHS”) Guidelines are applicable to this project:

- World Bank Group General EHS Guidelines
- World Bank Group Industry Sector EHS Guidelines for Health Care Facilities

D. Key Documents and Scope of MIGA Review

The following documents were reviewed by MIGA:

- Construcción Hospital III – Callao: Estudio de Impacto Ambiental (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- Centro De Atencion Primaria – Callao: Estudio de Impacto Ambiental (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- Construcción Hospital III – Villa María del Triunfo: Estudio de Impacto Ambiental (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- Estudio de Impacto Ambiental Semidetallado – Proyecto Rehabilitación y Ampliación de la Torre Trecca (2010)
- Aprobación del Estudio de Impacto Ambiental del Proyecto Almacén Logistico Sabogal de ESSALUD (2010), Informe No. 4529 – 2010/DEPA/DIGESA, Ministerio de Salud

E. Key Issues and Mitigation
PS1: Social and Environmental Assessment and Management Systems

The Operators prepared Environmental Impact Assessments ("EIAs") for each of the six facilities and submitted the EIAs to the competent authority for environmental certification in compliance with the laws of Peru and the terms of the contract with Essalud. The respective EIAs were prepared following the rules and procedures of the National System of Environmental Impact Assessment which required inclusion of the following mandatory elements: summary, description of the proposed activity throughout the project cycle, social and environmental baseline study, identification and characterization of impacts throughout the project cycle, public participation plan, environmental management plan ("EMP"), environmental surveillance plan, environmental monitoring program, contingency plan, abandonment or closure plan, schedule and budget.

Villa María Hospital, Callao Hospital & Callao Primary Care Center: The same consultant was hired to prepare the EIAs for all three facilities. The risks and impacts associated with greenfield construction and operation of the three are similar in nature, with the scale of impact lesser for the primary care facility. The EMPs for the three facilities outline programs for managing impacts related to air emissions, noise and wastes. Mitigation measures were developed based on considerations of viability, effectiveness, benefits, community consultation and design, including technology, engineering specifications, logistic requirements, cost, project cycle and responsibilities. The Operators will hire an Environmental Supervisor responsible for implementation and/or supervision of implementation of the EMP during construction and operation phases. The following action plans are committed to being prepared and implemented: construction occupational health and safety ("OHS") plan, hospital OHS plan, and hospital EMP (Villa Maria and Callao Hospital). A hospital occupational health unit and safety committee will be established to implement and monitor the OHS plan. Environmental education, awareness and training programs for workers, technicians and professionals will be provided during construction and operation phases.

Trecca Tower Medical Center: A manager for Environmental Health and Safety (EHS) and social affairs will be appointed that reports directly to General Manager of the Operator. The EHS and social affair manager will be responsible for reporting on compliance with the Environmental Management Plan (EMP) and laws of Peru, implementation of procedures and activities identified in the EMP, coordinate industrial safety, Occupational Health and Safety (OHS) and social issues across the organization, and coordinating contractors implementation of the EMP. The EMP will be implemented as seven programs: mitigation; monitoring; social and community affairs; OHS; construction materials management; management of machines, equipment and vehicles; and contingencies. During construction, the mitigation program will consist of sub-programs for wastewater, air emissions (noise, and gases and particulate matter), and wastes (non-hazardous, hazardous and construction debris). Sub-programs during operation will consist of wastewater, noise and wastes (health care waste and domestic waste). All staff will receive mandatory EHS and OHS training as relevant to their position.

Central & Sabogal Distribution Centers: The EMP provides for a series of programs to manage the impacts associated with logistics handling, infrastructure materials and solid wastes, including plans for the management of expired medicines and other products considered hazardous, solid wastes, monitoring, contingency and closure. The Operator has developed a corporate training program for all employees that is inclusive of EHS and OHS.
PS2: Labor and Working Conditions

Work place hazards for construction workers, distribution center staff, health care providers, cleaning and maintenance personnel, and personnel involved in handling, treatment and disposal of hazardous material and health care waste are associated with industrial accidents, air emissions, exposure to infections and diseases, life and fire safety, hazardous material and health care waste. These hazards are considered moderate (excepting hazardous material and health care waste, which is considered high) and will be mitigated through preparation and implementation of management plans for OHS, life and fire safety, and hazardous material and health care waste that designate responsible staff and define processes and procedures for the prevention of occupational hazards, industrial accidents and occupational diseases.

The Operators will be responsible for developing a human resources policy and procedures inclusive of provisions explaining employee rights under the labor and employment laws of Peru (including their rights to wages and benefits), collective bargaining, non-discrimination, retrenchment and a grievance mechanism in compliance with PS2.

Villa María Hospital, Callao Hospital & Callao Primary Care Center: A temporary workers camp will be erected to accommodate construction workers. An OHS management plan will be developed in compliance with PS2 and World Bank Group prior to construction and operation phases. The OHS management plan will include a baseline and risk assessment to facilitate identifying risks and preventive and corrective measures in the short and medium term. Training will be provided to construction workers on security, health and hygiene, infectious disease, personal protective equipment, silicosis, ergonomics, reporting of industrial accidents and prevention and control measures. The Operators will establish an occupational health unit responsible for implementation of health and safety programs during operation. These programs will be designed to reduce risks of accidents and provide training to staff on occupational risk factors that cause accidents, accident and injury recording and accident investigation. Monitoring the microbiological quality of indoor air and inert surfaces will be conducted on a quarterly basis, in concert with performing disinfection and other control measures.

Trecca Tower Medical Center: An OHS management plan was presented in the EMP. The contractor will be responsible for preparing and implementing the construction phase OHS management plan during under supervision of the Operator’s EHS manager. The unfinished construction site presents an unsafe environment and will be cleared prior to rehabilitation activities. Medical examinations of construction workers will be required to be performed by a licensed physician and medical monitoring will continue throughout the construction phase. Worker health and safety training will also be provided that includes responsibilities in preventing accidents and maintaining a safe working environment, health and safety standards and procedures, emergency response and contingencies, and procedures for reporting accidents and unsafe conditions and practices. Personal protective equipment will be required to be worn and its use monitored on a daily basis. Scheduled periodic inspections will be performed according to an inspection plan.

OHS hazards during operation, including exposure to radiological diagnostic equipment and bio-hazardous medical waste, will be managed through implementation of specific measures for radiology professionals and waste operators. Procedures have been developed and proper use of personal protective equipment will be required in order to undertake activities related to
radiological equipment or health care waste. Protocols for use of sharps will be implemented to reduce risk of needlestick. Continuous medical surveillance of health care workers will be conducted and workers with changes to chronic health or acute contact with bio-hazardous material will be monitored. All staff will be adequately training in the management of health care waste.

**Central & Sabogal Distribution Centers:** The Operator will prepare an OHS management plan for construction and operation phases that includes a risk assessment of occupational hazards, preventative measures, reporting and training consistent with PS2.

**PS3: Pollution Prevention and Abatement**

*Construction phase:*

Key pollution risk and impacts during construction phase for all facilities are generally related to dust, air emissions, water quality, waste and traffic resulting from activities generally including: demolition, clearing and transportation of debris, grading, soil excavation, material handling and transport, trenching, construction of structures, finishing and completion, dismantling and removal of equipment and machinery and installation of power lines. These risk and impacts are generally expected to be of limited duration with low to moderate effects, excepting hazardous industrial waste which is expected to have moderate to high potential effects, and will be avoided, reduced or mitigated through implementation of the respective EMP’s for each facility, and compliance with the laws of Peru, PS3 and World Bank Group EHS guidelines.

Particulate matter and gaseous air emissions generated from dust and operation of heavy machinery and vehicles will be mitigated through dust control measures such as water spray and proper maintenance of heavy machinery and vehicles. Air quality at Villa María Hospital, Callao Hospital and Callao Primary Care Center will be monitored for fine particulate matter, carbon monoxide, nitrous oxides, sulfur dioxide and lead at two stations different stations on 3 separate occasions during this phase. Trecca Tower Medical Center air quality monitoring for particulate matter, carbon monoxide and nitrogen oxides will be conducted at two different stations throughout the duration construction. Air quality monitoring at Central and Sabogal Distribution Centers will be conducted annually.

Wastes generated during construction will be mitigated through implementation of waste management programs focused on minimization, classification, segregation, storage, transport and disposal. Categories of waste that will be generated include organic waste, inorganic recyclable waste, non-hazardous industrial waste and hazardous industrial waste. Hazardous industrial waste will result from exposure to hazardous materials, including hydrocarbon and solvent contaminated soil, concrete, asphalt, filters, containers, rags and derivatives. These wastes will be segregated and stored in designated color-coded containers onsite, with transport contracted with a licensed company for final disposal in an approved industrial landfill. Organic and non-hazardous industrial waste, including debris, construction materials, and domestic wastes will be collected, stored and transported for final disposal in an approved municipal landfill.

*Operation phase:*
Key pollution risk and impacts during the operation phase for all facilities are generally related to air emissions, wastewater, wastes and traffic resulting from operations and maintenance of facilities and providing health care services. These impacts will be avoided, reduced or mitigated through implementation of the respective EMP’s for each facility, and compliance with the laws of Peru, PS3 and World Bank Group EHS guidelines.

**Villa María Hospital & Callao Hospital:** Wastewater, air emissions, hazardous material and health care wastes were identified as pollution control risks and impacts during operation. Risk and impacts associated wastewater and air emissions are expected to have moderate effects, and hazardous material and health care waste high potential effects.

Wastewater will be collected and discharged to the municipal sewer system. Grease traps, oil separators and other control measures will be installed to reduce potential impacts. Collected grease and other organic materials will be incinerated and effluent will be monitored twice a year for oil and grease, total suspended solids, temperature, pH, biological oxygen demand, chemical oxygen demand and flow.

Air emissions resulting from operation of the generators, boilers and incinerators will be mitigated through design, selection and installation of equipment with specifications for emissions below standards for gases, particulate matter and odors as provided in the laws of Peru and World Bank Group EHS Guidelines. Each facility is expected to operate two incinerators that will use a pyrolysis process to chemically decompose organic and health care waste at high temperatures in the absence of oxygen, transforming the waste into gases, ash and small quantities of liquid. The gases will be admitted to the atmosphere via a stack on the roof and ashes will be collected, stored and disposed as hazardous waste. Air emissions from the generators, boilers and incinerators are expected to be within permissible limits and will be monitored for fine particulate matter, lead, arsenic, carbon monoxide, nitrous oxides and sulfur dioxide annually.

Waste generated during operation will be mitigated through implementation of a waste management program focused on minimization, classification, segregation, storage, transport and disposal. Categories of waste that will be generated include organic waste, inorganic recyclable waste, non-hazardous industrial waste, hazardous industrial waste and health care waste. Health care waste will include bio-hazardous medical waste. These materials will be segregated, controlled and disposed via on-site incineration. Hazardous industrial waste generated during operation is expected to include lighting fixtures, batteries, greases, solvents, cleaners, incinerator ash, laboratory chemical waste and pharmaceutical waste. These waste streams will be segregated and recycling options will be considered prior to contracting a licensed transporter for final disposal in an approved industrial landfill the alternative. Organic and non-hazardous industrial waste will be collected, stored and transported for final disposal in an approved municipal landfill. Waste generation and implementation of the waste management program will be closely monitored during operation.

**Callao Primary Care Center:** Particulate matter and gaseous air emissions, and hazardous material and health care waste were identified as pollution control risks and impacts during operation. A health care waste management plan will be prepared and implemented prior to operation. Bio-hazardous medical waste will be disposed via an onsite incinerator which produces ash and gaseous emissions. All other waste streams will be characterized, segregated, managed,
transported and disposed offsite based on hazard. Air emissions from operation of a incinerator and generators are expected to produce minimum particulate matter and gaseous emissions. Siting of the incinerator was conducted based on analysis of alternatives with respect to impacts to the environment, health, zoning and land availability. Air emissions will be monitored on a continuous basis for fine particulate matter, lead, carbon monoxide, nitrous oxides and sulfur dioxide.

**Trecca Tower Medical Center:** Wastewater, hazardous material and health care waste were identified as pollution risks and impacts during operation. No air emissions are expected as the center will not feature boilers or incinerators. Two types of wastewater will be generated, sanitary wastewater and from wastewater special services, such as laboratories. Both effluent streams will receive pre-treatment prior to discharge to the municipal sewer system. Grease traps will installed and maintained on a six month schedule, with the filtered material transported to a landfill for disposal. Wastewater generated from special services will receive physical and chemical pre-treatment consisting of a grit filter, sedimentation tank, clarification tank and disinfection prior to discharge to the municipal sewer system. Hazardous material and health care waste will be managed through implementing a health care waste management program. The wastes will be classified and segregated as either bio-hazardous waste, hazardous chemical waste or common solid waste, with color coded containers placed in all appropriate locations throughout the center. All staff will be training with respect to the proper classification and management of waste streams. The center will feature a dedicated central storage facility designed to accommodate the waste streams generated. All waste streams will be collected by licensed transporter for final disposal in an approved landfill. Manifests of all waste shipments will be maintained and reviewed regularly.

**Central & Sabogal Distribution Centers:** Sanitary wastewater, expired products and solids wastes were identified as pollution control risks and impacts during operation. Sanitary wastewater will be discharged to the municipal sewer system. Protocols will be developed for the storage, transport and final disposal (secure landfill or destruction) of expired medicines and hazardous products. Wastes will be classified and segregated as either common solid waste, or pharmaceutical and chemical waste. Both waste streams will be collected using licensed transporters for final disposal at approved landfills. Air quality, noise and waste management will be monitored annually.

**PS4: Community Health, Safety & Security**

Key community health and safety risks and impacts during construction and operation include life and fire safety, earthquake, noise and vibration, air emissions, hazardous industrial waste and health care waste, traffic and security from activities generally including: construction, operation of boilers and incinerators and providing health care services. These impacts will be avoided, reduced or mitigated through implementation of the respective EMP’s for each facility, and compliance with the laws of Peru, PS4 and World Bank Group EHS guidelines. Mitigation of impacts related to air emissions; hazardous industrial waste and health care waste are discussed in PS3.

The Lima metropolitan area is located in a seismically active zone where the probability of earthquake is high. To reduce community health and safety risk associated with earthquake and
natural hazards, public facilities will be designed, constructed and operated in compliance with the laws of Peru, including local building codes, fire department regulations, and legal/insurance requirements and in accordance with an internationally acceptable life and fire safety standard. The Operator of each public facility (excluding Distribution Centers) will establish a life and fire safety plan that identifies responsible individuals, applicable codes, standards and regulations, and define policies and procedures for risk reduction, mitigation and emergencies. Elements of the plan should incorporate design features of the building, including sprinkler and alarm systems, as well as a schedule for maintenance and testing of these systems, and periodic review and updating of the plan.

**Villa María Hospital & Callao Hospital:** Life and fire safety (including earthquake), noise and vibration, traffic and security were identified as community risks and impacts associated with construction and operation of the facility. Risk and impacts associated with life and fire safety (including earthquake) are expected to have high potential effects, and effects related to noise and vibration, traffic and security are considered moderate to low.

Life and fire safety (including earthquake) risks are associated with infrastructure safety, accident, fire and natural hazards will be mitigated through implementation of a contingency plan, as well as building design and engineering. The contingency plan will be prepared based on risk analysis and establishes action planning for emergencies, identifies the personnel and institutions involved, characteristics of alarm systems and internal and external communication, response procedures, equipment and materials, and training requirements, monitoring, evaluation and budget of the incidents to the stages of construction, commissioning, operation, and closure of the project.

Noise and vibration control measures will be adopted during the construction phase, including insulation barriers, fences, security notices, and isolation of the area with safety straps to reduce potential nuisance to neighboring areas. During operation, noise and vibration impacts are identified with operation of the generator, boilers and incinerators and will be mitigated by installation of a metal base with shock absorbers on the boilers and incinerators to avoid contact with the ground and reduce vibration. The generators will be enclosed by a 3 m reinforced concrete wall and trees will be planting along the property boundary to reduce noise emissions. Ambient noise will be monitored at a frequency of 3 times during the construction phase and annually during operation.

Increased traffic and congestion is expected during construction and operation phases resulting from the disruption of local traffic patterns during construction and provision of health services during operation. Construction activities related to the transport of materials and mobilization of equipment and machinery will be few in number and of variable duration. These impacts will be mitigated through placement of highly visible signage in and around the work site. During operation, traffic congestion is expected to result from entry and exit of vehicles for patients and staff concentrated between 7:30 AM and 10:00 AM and between 1:00 PM and 3:30 PM. Each hospital will have procedures for evacuation and what to do in the case of an emergency approved by the applicable regulatory bodies.

**Security Arrangements:** Security for each of the hospitals and the primary care center will be controlled from a centralized computer monitoring system and will include: parameter surveillance, closed circuit TB, information security, fire alarms, gas leak detectors, internal
sprinkler systems, automatic smoke extraction systems, emergency broadcast systems, emergency internal communication systems, personnel and auxiliary service elevators. Armed security personnel are expected to be used. The sponsor and operator have represented to MIGA that security arrangements and specifically the use of armed security personnel will be consistent with PS4.

**Callao Primary Care Center:** Life and fire safety (including earthquake), noise and vibration, traffic and security were identified as community risks and impacts associated with construction and operation of the facility. Risk and impacts associated with life and fire safety (including earthquake) are expected to have high potential effects, and effects related to noise and vibration, traffic and security are considered moderate to low.

Life and fire safety (including earthquake) risks are associated with infrastructure safety, accident, fire and natural hazards will be mitigated through implementation of a contingency plan, as well as building design and engineering. The contingency plan will be prepared based on risk analysis and establishes action planning for emergencies, identifies the personnel and institutions involved, characteristics of alarm systems and internal and external communication, response procedures, equipment and materials, and training requirements, monitoring, evaluation and budget of the incidents to the stages of construction, commissioning, operation, and closure of the project.

Noise and vibration impacts during construction are expected to be of variable magnitude and short duration producing moderate effects. Impacts will be mitigated through attenuation measures including isolation of the work site with containment barriers or walls, as well as security warnings and signage. Monitoring will be conducted at a frequency of 3 times during the construction phase and annually during operation.

Increased traffic congestion is expected as a result of disruptions of local traffic patterns during construction and increased vehicle use during operation. Construction impacts are expected to be of low magnitude and variable duration with low to moderate effects. These impacts will be mitigated through placement of highly visible signage in and around the work site. During operation, traffic congestion is expected to result from entry and exit of vehicles for patients and staff concentrated between 7:30 AM and 10:00 AM and between 1:00 PM and 3:30 PM.

**Security Arrangements:** See Villa María Hospital.

**Trecca Tower Medical Center:** Life and fire safety (including earthquake), noise and traffic were identified as community risks and impacts associated with construction and operation of the center. Potential effects related to life and fire safety (including earthquake) and traffic are expected to be high, and effects related to noise are considered moderate to low.

Life and fire safety (including earthquake) risks are associated with infrastructure safety, accident, fire and natural hazards will be mitigated through implementation of a contingency plan, as well as building design and engineering. The existing structure will be reinforced by structural evaluation, as well as earthquake resistant design standards based on the laws of Peru. Life safety measures include the installation of two external stairs for evacuation and sprinkler system. The contingency plan was developed to ensure effective emergency response, hazard
minimization and continuity of operations and identifies hazards and risks, procedures, responsible staff, equipment and training needs. The Operator will appoint a Director General of Emergency to manage and coordinate the emergency response program.

Noise impacts are expected to be most severe during the construction phase. Prevention measures such as fencing, barriers and buffer zones will be used to reduce impacts and noise emissions will be monitored throughout construction period at three different stations.

Significant traffic congestion is expected as a result of facility operations from staff and patients. The building design accommodates approx. 256 vehicles. A traffic impact study management plan was developed for the site and has proposed measures to mitigate the increased demand resulting from this large outpatient center.

Security Arrangements: Once in operation, the Trecca clinic will count on the following security features: (A) a physical security system consisting of (i) security coordinator on premises 24 hours a day, (ii) private security agents (one for each pedestrian and vehicular entrance, one for the building parameter 24 hours a day, one per floor of the building for 12 hour day shifts, one per two floors of the building for 12 hour night shifts), (iii) electronic security system, (iv) a magnetic or PIR Electronic sensor at the Entrance to each restricted area (Systems, treasury, etc.), (v) CCTV System (including 143 cameras located at any area car or person entrance or exit, common areas, waiting areas, critical areas – plus or minus 15%), and (vi) a Central Security Control. The building will have one central security control located in the Basement of the building where the electronic systems and CCTV system will be located. Armed security personnel are expected to be used. The sponsor and operator have represented to MIGA that security arrangements and specifically the use of armed security personnel will be consistent with PS4.

Central & Sabogal Distribution Centers: Life and fire safety (including earthquake) were identified as community risks and associated with construction and operation of the Distribution Centers. A contingency plan will be developed that contains actions to perform in the event of disasters and emergencies, as well as identifying responsible staff for forming an emergency response brigade.

Security Arrangements: The Central Distribution Center is protected by a closed circuit CCTV system with 32 strategically located cameras, providing 24 hour monitoring, in addition to an electric perimeter fence, central alarm, biometric access control, thirteen security guard locations around the warehouse, a manager and employees dedicated to risk control and prevention. The Sabogal Distribution Center has seventeen security cameras, two agents and a central alarm monitored 24 hours. Armed security personnel are expected to be used. The sponsor and operator have represented to MIGA that security arrangements and specifically the use of armed security personnel will be consistent with PS4.

F. Environmental Permitting Process and Community Engagement

EIAs were submitted and received approval from the Ministry of Health in 2010 for the respective healthcare facilities as required under Peru’s Environmental Impact Assessment National System Act of 2001 (Law Nº 27446). Community consultation and engagement are a
specific requirement necessary to be satisfied for approval of the EIA under the regulations. In addition to the EIA, each health care facility requires a building license, habilitation license and operating license. The following permits and licenses have been applied for and received:

**Villa María Hospital**

- Building License
- Habilitation License
- Operating License (pending)
- Environmental Impact Study

**Callao Hospital & Callao Primary Care Center**

- Building License (in process)
- Habilitation License
- Operating License (pending)
- Environmental Impact Study

**Trecca Tower Medical Center**

- Building License (pending)
- Habilitation License (pending)
- Operating License (pending)
- Environmental Impact Study

**Central & Sabogal Distribution Centers**

- Building License
- Habilitation License
- Operating License (pending)
- Environmental Impact Study

**G. Availability of Documentation**

- *Construcción Hospital III – Callao: Estudio de Impacto Ambiental* (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- *Centro De Atención Primaria – Callao: Estudio de Impacto Ambiental* (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- *Construcción Hospital III – Villa María del Triunfo: Estudio de Impacto Ambiental* (2010), Consorcio Callao Salud S.A.C. and D+M Arquitectos S.A.C.
- *Estudio de Impacto Ambiental Semidetallado – Proyecto Rehabilitación y Ampliación de la Torre Trecca* (2010)
• *Aprobación del Estudio de Impacto Ambiental del Proyecto Almacén Logístico Sabogal de ESSALUD* (2010), Informe No. 4529 – 2010/DEPA/DIGESA, Ministerio de Salud

The above listed documentation is available electronically as PDF attachments to this ESRS at [www.miga.org](http://www.miga.org). Annexes to the available documentation may be obtained through contacting MIGA at [dbaharoglu@worldbank.org](mailto:dbaharoglu@worldbank.org).