
MERSIN INTEGRATED HEALTH CAMPUS PROJECT



NON-TECHNICAL SUMMARY OF THE ESIA REPORT



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ANKARA



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1 INTRODUCTION

This document is a Non-Technical Summary (NTS) of the Environmental and Social Impact Assessment (ESIA) report for the '*Mersin Integrated Health Campus Project*' (referred to as Mersin IHCP or simply 'the Project'). The NTS is intended to be used for the purpose of providing information during the public consultation stage.

The Mersin IHC is a large urban development on 232,000 m² (23.2 ha) of land located in Toroslar District of Mersin Province. It will include a hospital complex, one heliport, a power plant and administrative buildings. The Project location is shown in Figure 1.

The ESIA is a study into the effects of construction and operation of the Project on the physical, biological and social environment. The ESIA Report describes the Project, its impacts predicted on environmental and social conditions and explains how the Project has been designed and how it will be implemented in order to minimise its adverse impacts and maximise its benefits. This document is a summary of the main ESIA Report.



Figure 1 Location of the Project Site within the District of Mersin

2 WHO HAS COMMISSIONED THE ESIA

The ESIA has been commissioned by *Mersin Entegre Sağlık Hizmetleri Yatırım ve İşletme Anonim Şirketi* (the 'Project Company') and undertaken by 2U1K, a Turkish environmental consultancy. The Project Company has been selected by the Ministry of Health (MoH) to design, construct and operate the Mersin Integrated Health Campus (IHC) Project (the Project).

Under the terms of the contract, the Project Company will construct the Project (over a period of approximately 24 months) and take on dual management of the campus during its 25 year operation. Specifically, The MoH will assign doctors, nurses and other clinical staff to the campus and the Project Company will be responsible for the provision of support services including imaging, laboratory services, housekeeping, security, catering, cleaning, maintenance, information management systems, car parking and waste management services. The MoH will pay annual rents to the Project Company for the 25 year operational term. At the end of this period, the campus will be transferred to MoH.

3 THE REQUIREMENTS FOR AN ESIA

The Project is listed in Annex-I of the EIA Regulation dated October 03, 2013 and numbered 28784 as hospitals with bed capacity equal to or above 500. Since Annex-1 lists the projects for which EIA is required to be implemented, an EIA process was originally required to be implemented for the Project according to the EIA Regulation. However, according to the official letter of the Ministry of Environment and Urbanization (MoEU), the health campus projects including the Mersin IHCP will be exempted from EIA provided that the documents regarding the completion of the tender process are submitted to the MoEU. Since the Project is among those projects for which tender processes are completed, the Project including the auxiliary facilities of the health campus such as the trigeneration plant is exempted from the provisions of EIA Regulation. Therefore, EIA is not required for the Project as per national legislation.

In the absence of a need for a Project impact assessment under national law, the requirement for this ESIA has arisen as a result of the Project Company seeking finance from international lenders to support the development of the Project. Such institutions have requirements for environmental and social due diligence which requires the preparation, public disclosure and consultation of an ESIA Report and accompanying Environmental and Social Management and Monitoring Plan (ESMMP), prior to the decision to approve finance for a project.

The financing of the Project is likely to be sourced from a group of lenders composed of UniCredit Bank AG (UCB), Yapı Kredi Yatırım A.Ş. (YKY), Denizbank of Turkey and Sberbank of Russia. Therefore, the Project Company is fully committed to the international lending requirements of the Equator Principles (2013), which include:

- the International Finance Corporation (IFC) Performance Standards on Social and Environmental Sustainability (2012);
- the International Finance Corporation (IFC) Environmental, Health and Safety General Guidelines (2007); and
- the IFC specific Environmental, Health and Safety Guidelines for Health Care Facilities (2007).

The project must also comply with all Turkish regulatory requirements and with EU Directives on protection of the environment and the community.

4 PROJECT DESCRIPTION

4.1 Need for the Project

Turkey requires substantial investment and improvement in its healthcare infrastructure. Many existing facilities have limited capacity, outdated technology and do not fully meet the current standards of the MoH. In order to address these issues, Turkey has been implementing the World Bank's Health System Strengthening (HSS) Program since 2003, supported by the World Bank through a lending program and policy dialogue.

The Mersin IHC Project is being developed as part of the HSS Program and the wider Public-Private Partnership (PPP) program in Turkey. The private sector finances the design, construction and supplementary facilities of the project and the MoH is responsible for providing clinical staff.

Mersin is the No. 15 Health Region of Turkey. The Mersin Region serves 1,647,899 people in Mersin, covering all the districts of Mersin, i.e. Akdeniz, Yenişehir, Mezitli, Toroslar, Çamlıyayla, Tarsus, Erdemli, Silifke, Mut, Gülnar, Aydınçık, Bozyazı and Anamur. Mersin region currently has 11 state hospitals with a total bed capacity of 2,175; 11 private hospitals with a total bed capacity of 551; and a university hospital with a total bed capacity of 407.

4.2 Project Facilities

The Project Company estimates that up to 13,000 people could use this site on a daily basis. The following paragraphs describe the main components and facilities proposed for the Project.

The IHC will comprise of a core surrounded by three hospital towers. The core will be of 3 floors occupied by polyclinics. The IHC will provide 1259 beds in total, consisting of 447-bed General Hospital, 145-bed Oncology Hospital, 191-bed Cardiovascular Hospital, 96-bed Psychiatry Hospital, and 380-bed Women's and Children's Hospital.

The IHC will also comprise a 1000-m² commercial area. The IHC will include a 3759 lot car parking, which will be located partially at basement floors, partially as multi-level car parking building and partially as outdoor.

A technical building will be located to the south of the health campus. A tri-generation system, which produces electricity, heating and cooling at the same time, will be installed. The tri-generation system will include three gas motors with total installed capacity of 7.5 MW_e and 14.4 MW of nominal thermal power. There will be also three gas boilers with total thermal installed capacity of 12.9 MW. In addition, there will be a heliport in the IHC.

The central heating system is likely to use natural gas supplied by the city network. In case of shortage, the central heating system will be fed by diesel tanks that will be located on site.

Fuel tanks will be located next to the technical buildings. The total amount of stored diesel will be 200 tons which corresponds to three day-supply.

The simplified general layout and the model view of the IHC are shown in Figure 2 and 3, respectively.

4.3 Construction and Operation of the Mersin IHCP

Construction of the Project is expected to take 24 months and the campus will be transferred to MOH after 25 years of operation.

The Project Site is an empty and barren land, hence no tree clearance will be made. Only the existing vegetation and vegetative top soil will be stripped and temporarily stored at the site in landscaping works.

It is estimated that a maximum of around 2535 workers will be required for the construction phase of the project. A maximum of 2160 of these will be housed on site. It is likely that if workers largely originate from Mersin, they may prefer to stay in their own homes than use the workers accommodation. The origin of the workforce will depend on the sub-contractors to be selected.

Once operational, the Hospital Complex is expected to employ 368 health staff comprised of doctors and nurses. There will be a number of 1326 support staff. The hospitals to be closed have not been declared officially by the Ministry of Health, yet.

There will be a dual management system between the MoH and the Project Company in the campus. Under this system, MoH will assign doctors, nurses and other clinical staff to the campus, and the Project Company, i.e. SPV, will be responsible for the provision of support services including imaging, laboratory services, housekeeping, security, catering, cleaning, maintenance, information management systems, car parking and waste management services.

4.4 Area of Influence and Associated Facilities

The ESIA assesses impacts within the Project's Area of Influence (AoI). All hospital buildings (including tri-generation plant) and the commercial area are primarily included in the AoI. In addition to these, surrounding communities (i.e. Korukent Neighbourhood, Çağdaşkent Neighbourhood, Çukurova Neighbourhood and Çavuşlu Neighbourhood), nomad people living next to the Project site, the excavated material dump site, the landfill, the domestic wastewater treatment plant and the medical waste sterilization plant of Mersin Metropolitan Municipality are included in the AoI.

There will be urban development around the IHC in the future. Therefore, the Metropolitan Municipality is known to be planning a connection road between the highway and this new development area around the IHC. Thus, construction of this connection road is not considered as the associated facility of the Mersin IHC. In addition, urban development areas

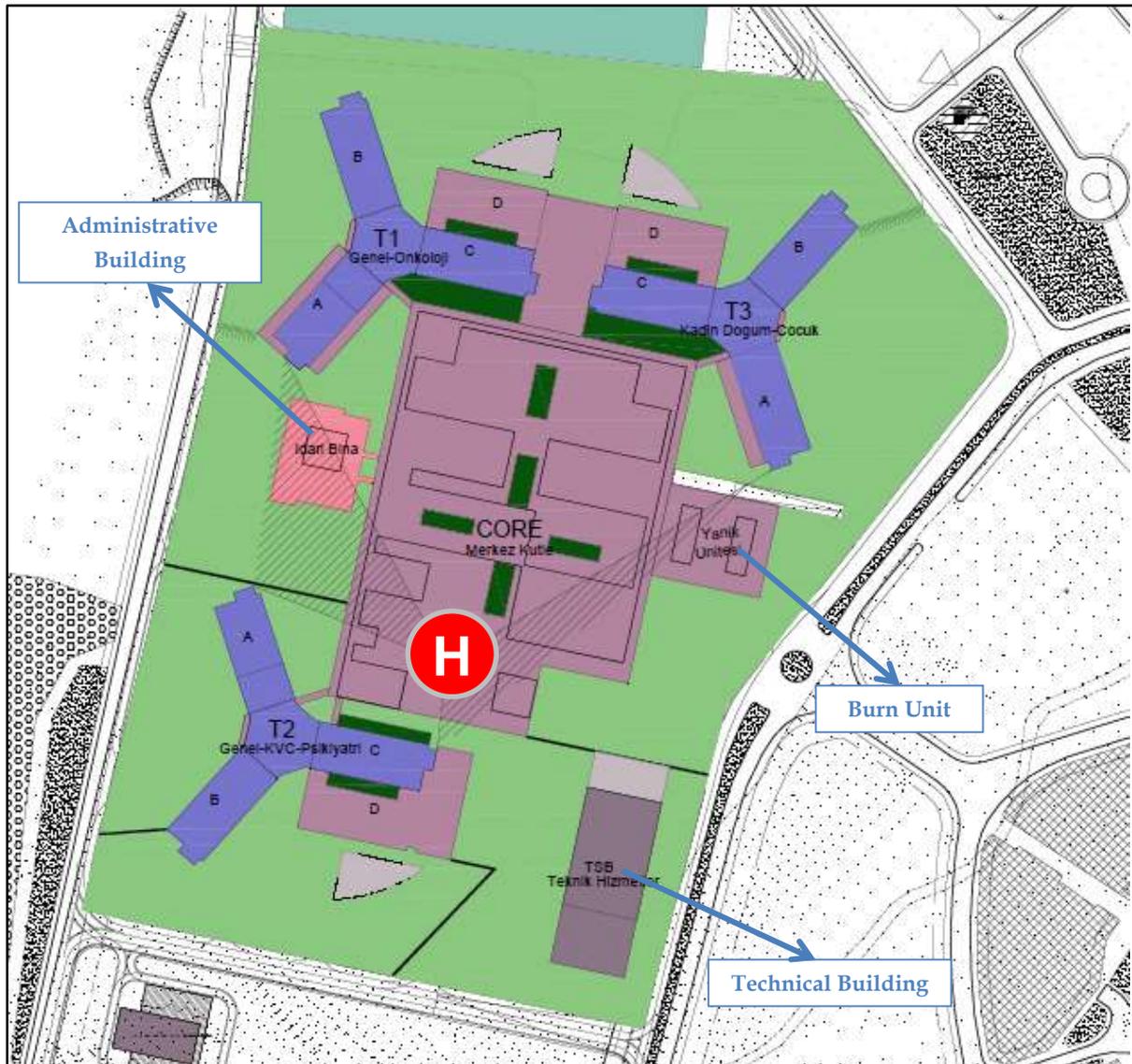


Figure 2 Simplified General Layout

are not included in the Area of Influence since according to the 1/10,000 Zoning Plan, the site will not be surrounded by new settlement areas and it is not clear at this stage when the construction of these areas will start. Alternatives Considered

Alternative design options that were considered for the Mersin IHCP included: (i) alternative site options and (ii) technology alternatives.

4.4.1 Site Alternatives

The MoH completed the necessary procedures for allocating land for construction of the health campus before the tender process. Therefore, the Project Company did not participate in site selection process. The Project Site was provided by the Toroslar Municipality to the MoH on January 21, 2009. Allocation of public land for the health complex has been highly cost effective in contrast to acquisition of private land.



Figure 3 Model view of the Mersin IHC

The Project will not directly result in the loss of assets, the impairment of livelihood, physical relocation of individuals, households and community. The selection of the Project site will not create negative impacts in terms of land acquisition and involuntary resettlement. Moreover, the Project Site is easily accessible from the city of Mersin and also from neighboring settlements via the planned access road from the highway. Hence, site selection process for the Project Site is deemed appropriate.

4.4.2 Technology Alternatives

4.4.2.1 Medical Technologies

The health campus will utilize highly advanced and sophisticated medical devices, which will increase patient throughput. In other words, more patients will be served in a facility with almost the same bed capacity as the total of those to be closed.

4.4.2.2 Energy Efficiency

The Project Company intends to build a health campus, which is superior to previous health facilities in terms of energy efficiency. In this respect, various energy efficiency systems will be used, such as illumination automation system; energy automation in buildings; trigeneration system; heat recovery systems; solar panels; frequency-controlled water pumps; condensing economizer boiler; and rain water collection system.

5 ESIA PROCESS AND APPROACH TO THE ASSESSMENT

The methodology for predicting impacts of the Mersin IHCP consisted of consists of a multi-stage iterative approach in order to predict and evaluate the potential effects the Project could have on the physical, biological, social and cultural environment. Measures are then identified that the Project will take to avoid, minimize, mitigate or compensate for any adverse impacts; and to enhance positive impacts where possible. Results continue to be revisited and modified as the assessment progresses and as Project effects are monitored.

In summary, potential Project interactions with the environmental and social environment are identified and the significance of resulting impacts rated as Negligible, Minor, Moderate or Major. Once the significance of a given impact has been characterised, appropriate mitigation or enhancement measures are identified and the significance of resultant 'residual impacts' assessed. Residual impacts are also rated as Negligible, Minor, Moderate or Major.

It is important to note that this ESIA has been prepared taking into account the results of stakeholder engagement to date and review by the Lenders and their advisors. An Environmental and Social Management and Monitoring Plan has been prepared to cover all the mitigation measures identified to minimize potential environmental and social impacts that might result from the Project. Based on the gaps and the improvement areas identified during the ESIA process An Environmental and Social Action Plan (ESAP) has been developed with which the Project Company and the Lenders must comply with to ensure that Lenders' environmental and social requirements are met for the Project. This NTS, SEP and ESAP will be publically disclosed for 30 days in order to collect comment and feedback prior to finalization of the ESIA report. The final report will then be publically available for review throughout the lifetime of the Project and regular reports on progress with implementation will be published.

6 SUMMARY OF IMPACTS

6.1 Air Quality

6.1.1 Impacts During Construction

The two major sources of potential impacts on air quality during construction phase of the Project are the generation of dust from earthworks, movement of vehicles on unpaved surfaces, and the release of engine emissions from construction equipment and vehicles at the construction sites and workers accommodation. Dust rising from earthwork including drilling and vehicle movement could be significant particularly during dry weather conditions and may cause problems to nearby houses, agricultural areas and livestock farms.

The exhausts from construction equipment, diesel-fueled units and vehicles will also result in release of exhaust gases such as nitrogen oxides (NO_x), sulfur dioxide (SO₂) and carbon monoxide (CO).

Baseline survey of air quality for PM₁₀ was conducted at two points (i.e TOKI Housing and Korukent Mahalle). The results indicated that PM₁₀ values at the site were below the local and EU limits for this parameter.

Moreover, the air quality modelling study for PM₁₀ and settled dust was performed to determine the increase in the dust concentration at the closest sensitive receptors. According to the modelling The results of this modeling indicated that the local limits for dust would be met at the locations of the sensitive receptors, whereas EU limit slightly exceeded (54.5 µg/m³) at TOKI Housing.

The following mitigation measures will be put in place to minimize impacts on air quality during construction:

- All inner roads (with the Project site) and areas where trucks move including excavated and leveled areas will be watered regularly under warm, dry and windy weather conditions;
- Material will be loaded and unloaded without sluing;
- 30 km/hour speed limit will be set and enforced on non-paved roads;
- The top of the trucks will also be covered while carrying the excavation materials to dump site which has been designated away from the urban area;
- The exhaust emissions of the heavy machinery will regularly be measured, controlled and recorded by site staff from authorized institutions;

Following the implementation of mitigation measures the residual impacts on air quality during construction are assessed as negligible.

6.1.2 Impacts During Operation

During operation, the trigeneration power plant that will supply power to the Mersin IHCP is considered to be the major source of air emissions. It will consist of three gas motors, fueled by natural gas, each with an installed electrical capacity of 2.5 MW, corresponding to 14.4 MW of total thermal capacity. There will be also three gas boilers each with 4.3 MW of thermal capacity. Hence, the total thermal capacity of the Project will be approximately 27.3 MW.

Given the low capacity of the trigeneration plant and boilers and use of natural gas in both, air emissions during operation are predicted to be within national limits and therefore the significance of the impact is assessed as minor. It should be noted that the trigeneration plant will be plant shall be designed to comply with the relevant national regulations and EU Directives.

As for the GHG emissions, annual GHG emissions to be possibly originated from the Project calculated as 34,260.55 tones CO₂eq which make up about 0.03% of the GHG emissions of Turkey for “Public Electricity Generation and Heat Combustion” sub-sector in 2011.

6.2 Noise

6.2.1 Impacts During Construction

Construction phase of the proposed Project has the potential to create noise through the use of equipment and increased road traffic. Noise may cause temporary nuisance to the people living in the surrounding settlements.

Limit value for environmental noise given in Appendix VII of the Regulation on Assessment and Management of Environmental Noise is 70 dBA for construction sites. According to this regulation, construction activities can continue during evening and nighttime provided that necessary permission is obtained from the Local Environmental Committee through applying to the Provincial Directorate of Environment and Urbanization. In this case, limit values are 65 dBA and 60 dBA for the evening and nighttime, respectively. The IFC Environmental, Health and Safety General Guidelines (2007) require 55 dB(A) during the day-time (07:00-22:00) and 45 dB(A) for night.

Baseline noise survey was conducted at two sensitive receptors (i.e. TOKI houses and Korukent Neighbourhood). The monitoring results showed that background noise levels range between 34.5 dBA and 51.7 dBA at TOKI houses and between 35.0 dBA and 51.4 dBA at the Korukent Neighbourhood.

According to the noise calculations, none of the sensitive receptors lies within the range where construction-related noise level is above the daytime limit value given in the relevant IFC EHS General Guidelines, i.e. 150 m from the source. Noise level at TOKI Housing due to

construction activities is expected as 43.75 dBA while it is 42.17 dBA at the house located to the south (about 600 m from the source). Resulting cumulative noise at the sensitive receptors (i.e. construction noise and background noise evaluated together) will cause an increase of less than 3 dBA in the background noise level. Hence, both national and IFC requirements will be fulfilled in terms of day-time construction noise.

Moreover, the following mitigation measures will be put in place to minimize impacts of noise during construction:

- Necessary measures will be taken to reduce noise if deemed necessary according to noise measurement results; and
- Regular maintenance of the machinery will be made to reduce noise from the machinery.

6.2.2 Necessary permit from the local environmental committee will be secured if evening and night time working proposed. Impacts During Operation

The trigeneration plant as well as various pumps and other equipment could generate noise if unscreened. Occasional noise will occur due to the emergency generators and helicopter movement.

The design of the Project ensures that all noise generating machinery and equipment, including the tri-generation plant, will be in facilities designed to enclose noise to acceptable levels (compliant with IFC noise standards) using good standards of acoustic design. In addition, all noise generating machinery and equipment including the trigeneration plant will be located in buildings with isolated inner walls. Thus, no noise modeling study was performed for the trigeneration plant.

Potential noise impacts of the heliport will be considered in the architectural design, i.e. use of necessary isolation materials in the facades of the buildings. In this respect, the buildings in the campus will be designed to fulfill limit values of 35 dBA and 40 dBA (L_{eq}) for closed window and open window, respectively, given as "Limit Values for Interior Noise Level" in Table 9 in Annex-VII of the RAMEN.

Assessment of noise to result from the heliport will be conducted after the design is finalized, and an addendum will be made to the ESIA.

6.3 Water, Soil and Groundwater

6.3.1 Impacts During Construction

There is no surface water on site. Thus, only groundwater impacts need be considered. Groundwater sample taken in the vicinity of the Project site showed that the water quality was classified as is Class II in accordance with the Regulation on Management of Surface Water Quality. Based on the baseline study and nature of the land, the project site is not polluted.

Domestic wastewater may cause soil and groundwater contamination if directly discharged onto soil. In addition, oil and fuel spills also have the potential to affect soil and groundwater.

During construction phase of the Project, drinking and potable water will be required for usage by construction staff and for cleaning of construction equipment. In addition, water will be used in construction activities such as dust suppression and concrete preparation. Water consumption is estimated as 380.25 m³/day during the peak of construction, and nearly all of this water will be released as wastewater.

A connection will be made to the branch of sewerage system located in the nearby settlements. Wastewater that will be discharged to the sewerage system will be conveyed to the municipal wastewater treatment plant of the Metropolitan Municipality of Mersin.

Oil change and refueling of only heavy machinery will be made at the site by specially equipped trucks. Drip pans will be placed on the ground to prevent spills. In addition, there will be spill kits on those trucks for immediate action in case of fuel or oil spills. Hence, soil and subsequent groundwater contamination is not expected due to oil change and refueling at the site.

Secondary containment tanks will be built around the chemical and fuel tanks. In case of any spills on the ground despite all measures, contaminated soil will be immediately stripped, and taken to the hazardous waste temporary storage area.

Following the implementation of these mitigation measures, impacts on water, soil and groundwater during construction are assessed as negligible significance.

6.3.2 Impacts During Operation

During operation, wastewater that will be generated during operational phase will include domestic wastewater. Water consumption of the main hospital is predicted as 900 m³/day. 225 m³/day of this will be hot sanitary water, while 675 m³/day will be regular utility water consumption. All the water consumed is assumed to be converted into wastewater.

There will be also contaminated wastewater discharged from medical wards and operating theatres (e.g. body fluids and excreta, anatomical waste), laboratories (e.g. microbiological cultures, stocks of infectious agents), pharmaceutical and chemical stores; cleaning activities (e.g. waste storage rooms), and x-ray development facilities (i.e. radioactive substances). Especially that portion of wastewater causes severe damage in the environment when discharged to the receiving bodies without proper treatment.

Leakages and spills of fuel, oil, chemicals, waste oil and hazardous waste have the potential to result in soil and subsequent groundwater contamination if not suitably stored.

The extra flow load that will be brought to the sewerage system is an important issue that has been considered and addressed by the Project design. Similar to the case in construction phase, wastewater will be discharged into the sewerage network of the metropolitan municipality. Radioactive, hazardous and medical liquid wastes will be handled separately, and only domestic wastewater will be directly discharged to the municipal sewerage network. Nevertheless, a pretreatment plant may be considered to be installed before discharge in order to ensure that the discharge standards of the Mersin Water and Sewerage System Administration (MESKİ) are fulfilled.

Additional mitigation measures include:

- Hazardous chemicals and wastes will be stored in concrete-sealed areas;
- Fuel tanks will be placed in secondary containments to prevent spills and leakages onto soil;
- In line with the IFC's Guidelines for Healthcare Facilities, waste segregation measures will be employed to minimize entry of solid waste into the wastewater stream, including: procedures and mechanisms for separate collection of waste from patients and collection of large quantities of pharmaceuticals for separate treatment or return to manufacturer.
- Pesticides will be handled, stored, applied and disposed of in accordance with good international industry practice such as the Food and Agriculture Organization International Code of Conduct on the Distribution and Use of Pesticides; and
- The products that fall in World Health Organization Recommended Classification of Pesticides by Hazard Classes 1a (extremely hazardous) and 1b (highly hazardous); or Class II (moderately hazardous) will not be used.

Impact significance will be negligible when the proposed mitigation measures are in place.

6.4 Geohazards

The most significant geohazard during the operational phase is earthquake, which was a focus for the design team. The design of all the buildings in the health campus will be made according to the criteria stipulated in the relevant legislation on earthquakes (e.g. the Regulation on buildings to be constructed in potential earthquake areas). Regarding this, the design team also makes the necessary arrangements for building evacuation and escape routes in case of such incidents.

With the implementation of these design measures, seismic risks are assessed as minor significance.

6.5 Wastes

6.5.1 Non-Hazardous Waste during Construction

Domestic solid wastes and packaging wastes will be produced by the construction staff at both the workers accommodation sites and the construction sites. Construction wastes, to be produced as a result of construction works of the Project, are expected as cables, copper, empty containers of various size, steel and wood etc. Spoil due to leveling will also be generated during this period.

It has been estimated that there will be approximately 2915 kg of domestic solid waste produced from construction workers on site. In addition, excavated material to be disposed has been calculated by the design team as total of 480,553 m³. Quantities of construction waste and packaging waste are not currently known.

There will be also worn-out tyres produced due to changing of tyres of construction machinery. Worn-out tyres will be changed by authorized sellers which transfers them to licensed disposal facilities. Hence, worn-out tyres will not be temporarily stored in the Project Site.

Toroslar Municipality will collect solid wastes generated at the construction site on a daily basis, and transport it to the landfills of the metropolitan municipality.

Dumping of excavated material on the other hand mostly damages landscape. In this respect, the temporarily stored excavated material will be taken to the licensed disposal areas of the Toroslar Municipality. In addition, vegetable top soil will be stored in a separate part of the temporary storage area. Top of vegetable soil piles will be grassed to prevent losses, will then be used in landscaping works at the end of construction.

As part of the Environmental and Social Management System, a robust site-specific waste management plan will be prepared, and implemented by the construction site management for separate collection of different types of wastes and temporary storage of wastes.

Impact significance will be negligible with the proposed mitigation measures.

6.5.2 Non-Hazardous Waste During Operation

Non-hazardous waste expected to be produced during the operation phase of the Project can be classified as domestic solid waste and packaging wastes. It has been estimated that approximately 3.2 tons non-hazardous wastes will be generated daily.

According to interviews of the ESIA team with the authorized people from Toroslar Municipality, the municipality has the capacity and means to handle the additional solid waste load that will be brought about by the health campus.

Solid waste to be generated at the health campus will be temporarily stored at the waste storage area next to the Technical Building at the south, and collected by the municipality, and taken to the landfill of Mersin Metropolitan Municipality.

The waste management infrastructure of the relevant municipality and the planned waste management arrangements at the IHC are considered to be appropriate. In addition, a Waste Management Plan (WMP) clearly detailing waste management processes during operation for the Project will be prepared and implemented.

Impact significance will be minor with the proposed mitigation measures.

6.5.3 Hazardous Wastes During Construction

Hazardous wastes expected to be generated in the construction phase of the Project are oily rags, used air and oil filters, waste fluorescents, used cartridges as well as waste oil, waste vegetable oil, waste batteries and accumulators. Given existence of several authorised collection companies in the region, hazardous waste management is not expected to be a problem.

These hazardous wastes might cause soil, water and groundwater contamination if they are not properly collected, stored and disposed of. In order to ensure compliance with the regulatory requirements, hazardous wastes will be stored in a concrete-sealed, fenced and covered temporary storage area in order to prevent spills and leakages onto soil and protect it from precipitation. Hazardous wastes will be sent to the licensed recovery/disposal facilities by licensed transporters.

Impact significance is considered minor with the existing infrastructure and provided that proposed mitigation measures are taken.

6.5.4 Hazardous Wastes During Operation

There will be limited amount of hazardous wastes such as empty containers of chemicals, used cartridges, fluorescent lamps, used batteries and oily rags or equipment resulting from maintenance works as well as other types which are waste oil, waste vegetable oil and waste batteries and accumulators.

A waste storage area will be built next to the technical building at the south. Since this temporary waste storage area will be surface-sealed and closed, it will not allow spills or leakages of hazardous wastes onto soil. Hazardous wastes will be sent to the licensed recovery/disposal facilities by licensed transporters.

Impact significance will be minor with the infrastructural arrangements and mitigation measures described above.

6.5.5 Medical Wastes During Construction

In the construction phase, medical waste will be generated in emergency response cases and vaccination in infirmary to be established in the site. Mitigation measures to control medical wastes are:

- Medical wastes that will be generated during medical aid operations in the infirmary will be put in double layered red colored medical waste bag with the label “Medical Waste”, pursuant to the Medical Waste Control Regulation;
- Used injectors and other sharp edged materials in the infirmary will be put in closed containers made of hard plastic;
- Medical waste will be taken to the nearest health institution by the camp site doctor.

Impact significance is considered as minor provided that the proposed mitigation measures are in place.

6.5.6 Medical Wastes During Operation

In operational phase, medical waste will include microbiological laboratory wastes; waste blood samples and objects contaminated with blood; used surgery clothes; dialysis wastes (wastewater and equipment); air filters containing bacteria and viruses; injector needles; and broken glasses and similar objects.

It has been estimated that there will be 6,700 kg of medical waste generated by inpatients each day.

The existing infrastructure of the Metropolitan Municipality will be able to handle the additional load that will come from the new health campus. The official letter of the Mersin Metropolitan Municipality regarding this is presented in Appendix-D of the ESIA report.

Medical waste bins, suitable for the purpose of use, will be supplied in all clinics, polyclinics, diagnosis and treatment areas, medication preparation units and all other areas. Adequate amounts of medical waste bags, autoclave (i.e. sterilization) bags, waste labels and other consumable materials are kept available. Filled medical waste bags and sharp bins are collected and replaced regularly according to occupancy of the relevant unit. A waste storage building will be constructed near the Technical Building that will be located to the south of the project site, and medical wastes will be temporarily stored in this area to prevent contamination. Medical wastes will be transferred to this building from waste collection spots to be established at the basement of each tower. After each use, the waste collection and handling tools (waste bins, transport containers, etc.) will be disinfected at the temporary storage area.

According to the Medical Waste Control Regulation, medical wastes are collected from medical institutions by the authorised vehicles of the Metropolitan Municipality of Mersin,

and then taken to the disposal facility. Medical wastes will be taken to the sterilization plant of the metropolitan municipality.

In order to ensure there is a sound management system, medical waste management activities will be carried out according to the Medical Waste Management Plan to be prepared by the health campus management in the context of the Health Care Waste Management System (HCWMS). The proposed outline of this plan, provided by the MoEU, is given in ESMMP (see Appendix-F of the ESIA report). In the context of the HSWMS, the health campus management will undertake regular assessment of waste generation quantities and categories to facilitate waste management planning, and investigate opportunities for waste minimization on a continuous basis.

The plan will contain a range of measures for instance in order to eliminate adverse impacts of medical wastes, medical wastes will be put in double layered red colored medical waste bag with the label "Medical Waste", pursuant to the Medical Waste Control Regulation. Used injectors and other sharp edged materials will be put in closed containers made of hard plastic.

Impact significance is considered as minor provided that the proposed mitigation measures are taken.

6.5.7 Radioactive Wastes During Operation

During operation of the Mersin IHCP it is expected that there will be radioactive wastes. These are likely to include solid, liquid, and gaseous materials that have been contaminated with radionuclides. Radioactive wastes originate from activities such as organ imaging, tumor identification, radiotherapy, and other research/clinical laboratory procedures. Such wastes may include glassware, syringes, solutions, and excreta from treated patients. Without adequate management, radioactive wastes can have severe adverse impacts on the environment as well as human health.

The following mitigation measures will be put in place to minimize impacts of radioactive wastes during operation:

- All radioactive wastes will be stored in containers behind lead shields that are appropriately labeled;
- Radioactive wastes will be managed in line with Turkish Wastes Generated due to the use of Radioactive Substances (Official Gazette dated 02.09.2004 and numbered 25571); the IFC's Environmental, Health and Safety Guideline for Health Care Facilities (April 30th, 2007); and the IAEA Draft Strategy Guide DS 160 'Management of Waste from the Use of Radioactive Materials in Medicine, Industry and Research, 7 February 2003; and
- A radioactive substance management plan will be developed prior to operation of the Mersin IHCP.

With the implementation of these mitigation measures, risks associated with radioactive wastes during operation are assessed as minor significance.

6.6 Traffic During Construction and Operation

According to the preliminary Traffic Survey conducted by the design contractor of the Project Company in February 2014, there is no capacity problem on the roads to the campus site.

In the construction phase, there will be significant increase in number of trucks bringing construction material into site and taking excavated material and demolition debris from the site. Similar to construction phase, there is expected to be a major influx of vehicles as a result of the Mersin IHCP during the operation phase.

The Zoning Map shows the future developments around the health campus site. As the new settlement areas are established, there will be more traffic load in the vicinity of the health campus during operational phase. However, as mentioned in Section 4.3.5, the health campus will not be surrounded by housing developments according to the Zoning Map.

A car park with adequate capacity will be constructed based on forecasts of patients and emergency vehicles.

It is also expected that the metropolitan municipality will establish new bus lines to the health campus when it becomes operational.

According to information obtained from the Metropolitan Municipality of Mersin, a new connection road is planned to be constructed between the health campus location and the highway, which would also relieve the traffic load by diverting flows of vehicles coming from the neighboring towns and cities from the inter-city roads.

A Traffic Management Plan (TMP) for construction phase has been developed for the Project (an outline of which is presented in Appendix-L. of the ESIA Report). The TMP is intended to be used as a guideline for the Project Company and its sub-contractors to prepare site-specific traffic management plans.

The detailed traffic study identifying existing baseline conditions and traffic modeling for the future conditions considering the estimated traffic load in the operation phase will be performed. This information will be incorporated into the Traffic Management Plan that will be prepared as a site-specific document prior to operation phase (see item 1.3 under “Pre-Investment Phase” in the Environmental and Social Action Plan).

6.7 Ecology

It is expected that, there will only be limited or no impacts on both flora and fauna of the region during both the construction and operational phase due to the low biodiversity of the project area. On the other hand these impacts can be addressed on the basis of four main issues: habitat loss due to the permanent land clearance for the Project site, noise disturbance to fauna, possible release or introduction of alien or invasive species during the landscape works, excavation works and land clearance on proposed construction site of the facility, and clogging of plants' stomata due to dust emission in association with excavation and transportation of materials.

Although the Project Site is close to a Key Biodiversity Area, which is Mersin Hills Important Nature Area, the Project Site does not have any official protection status. The Mersin-Adana Highway acts as a barrier between the important nature area and the Project Site.

The Project Site is still supporting some natural conditions such as natural plant life, bird feeding area, reptile breeding area. But the importance of the Project Site is low because of "degraded habitat conditions" as a result of anthropogenic activities and small habitat size which presents limited resources.

Based on literature survey and field studies, it can be concluded that the Project Site shows degraded natural area/habitat conditions depending on previous human activities and Mersin-Adana Highway which cuts the possible interactions between Mersin Hills Important Nature Area and the Project Site. Fauna species rarely visit the Project site due to current degraded habitat quality and this makes noise impacts not to pose a crucial disturbance factor for the inhabiting faunal community around the region.

The following mitigation measures will be put in place to minimize ecological impacts:

- Post construction landscaping works, will use native species will be used and measures will be in place to stop the accidental transfer of invasive species to the region.
- Follow the succession dynamics and develop and apply reinstatement procedures after completion of the construction.
- Conduct monitoring studies for wildlife and birds movements during construction phase of the Project, with particular concern on migration periods of birds, reproduction periods of mammals, vegetation period for endemic plants, etc.
- Use of the current road network will be employed to the highest extent possible so that the potential impacts of new road construction will be minimized. The existing road systems provide the chance for the decrease of impacts due to the establishment of new roads.
- When selecting the routes for any new roads, water, gas and electricity transmission lines to be established, the ecological corridors will be studied and monitored for potential impacts on wildlife.

- Any kind of water resources should be made aware of caution against pollution in all phases of the Project.
- Precautionary measures related with the fire and forest fire risks will be taken.
- Local flora-fauna elements will be used when landscaping activities related with the Project (plant applications, greening efforts etc.) are carried out.
- Precautionary measures will be taken so as not to introduce any kind of invasive species during any phase of the Project.
- In order to reduce impacts on vegetation to be formed through landscaping works, an Integrated Pest Management system will be established in line with requirements associated with EBRD policies and safeguards.

6.8 Resettlement

On the Project site no physical displacement will be required, however ten nomad¹ families who have 5000 sheep stay in the close vicinity of the project every year between December and March stay on the land next to the Project site every year between December and March and these families are using the Project site as a pasture lands. These families will need to be moved due to construction and thus causing economic displacement. It should be noted that resettlement of nomads is rather an indirect impact of the project as nomads have already been going through impacts of the rapid urbanization in the Toroslar District. In addition to assistance of governmental institutions, SPV has developed Nomad Support Strategy and will also monitor the displacement process. Residual negative impacts are expected despite the proposed mitigation measures as the Nomads are faced with the losing their culture.

6.9 Influx

The peak number of manpower will be 2,535 during the construction period and with up 2,160 of the construction workers will be housed in temporary worker accommodation. It is expected that construction workers will mainly come from within Mersin and neighboring cities.

During the operation phase, it is estimated that over 3,000 workers will be required 24 hours a day, 7 days a week. It is also anticipated that up to 13,000 people may use the site on a daily basis over a 24 hour period. This figure includes staff, patients and visitors.

¹ The nomad culture is distinct from mainstream national societies in terms of their unsettled life style. However, in the indigenous people list of World Bank just the Assyrians are identified as indigenous.

Key impacts associated with influx are likely to be traffic noise and congestion (as discussed under environmental impacts) and impacts associated with interactions with construction workers.

6.9.1 Interactions with Workers During Construction

Stakeholders expressed specific concern over construction workers causing social problems within the local communities and impacting on safety and security. These concerns have come about as a result of previous projects where there have been issues with construction workers that have led to physical aggression between the workers and some local residents.

The following mitigation measures will be put in place to minimize impacts associated with workers during construction:

- A strict code of conduct will be developed and implemented for construction workers, outlining expected behavior with respect to their daily interactions with local residents and users of public amenities. This will be part of the labour force management plan to be developed for the project;
- The labour force management plan will also include requirements for induction and training on expected behaviors and on disciplinary procedures (including dismissal procedures for unacceptable conduct). Construction workers will be made aware of the grievance mechanism and stakeholder engagement process, explaining that stakeholders have the right to register grievances through a formal procedure.

The significance of this impact is expected to reduce to negligible with the implementation of the described mitigation measures.

6.10 Local Economy and Local Livelihoods

The Project is expected to result in benefits to the local economy and therefore local people. These benefits are expected through both construction and operation. Economic impacts are also expected around the hospitals to be closed as a result of the Project.

6.10.1 Benefits to the Local Economy and Local Livelihoods During Construction and Operation

The Project is located in a lower to middle class area with thriving local businesses. Whilst construction workers are likely to be sourced from the local area, the additional 2,535 construction workers will be working directly in and around the site for approximately 24 months. This is likely to increase trade for local businesses, e.g. the shops in the shopping mall. During the operation phase, up to 13,000 people are expected to visit the hospital complex each day, which could further boost trade for local businesses.

In addition, the Project will be a major employer in the area with opportunities during both construction and operation. Opportunities for local people are most likely to be for non-medical staff positions. During operation 3,000 employees will be required for medical and nonmedical positions. Additional employment opportunities will also be created through the growth of local business trade. Therefore the Project is expected to boost the local economy and more broadly, enhance employment opportunities in Mersin.

In order to enhance these Project benefits, the Project Company will:

- The Project will develop and implement human resources policies that will include requirements and targets around the hiring of local workers. In addition, there will be clauses around gender equality and non-discrimination with specific targets for ensuring equal opportunities.

The significance of this impact is expected to be positive.

6.10.2 Economic Impacts as a Result of Hospital Closures

This Project may result in the closure of existing hospital / hospitals. However, hospitals to be closed and their respective capacities are not known at the time of the report writing. The closure of hospital will impact on contracted hospital workers. (numbers of the contracted workers is unknown). Hospital closures will also impact on local businesses within the vicinity of the hospitals as well as privately run hospital canteens. Patients residing close to these hospitals will also have to travel further (and pay more for their transport) to reach Mersin IHCP.

Mersin IHCP will work on the areas below to minimize negative impacts;

- Mersin IHCP will prepare human resource for hospital workers;
- Tender process of commercial areas will be transparent and the local shops and canteens of the hospitals can get opportunity to work in Mersin IHCP;
- Mersin IHCP will work in cooperation with the Metropolitan Municipality for alternative transportation ways to the campus area.

Residual negative impacts are expected despite the proposed mitigation measures. Therefore, the MoH needs to conduct a close follow-up including enhancement measures..

6.11 Community Health, Safety and Security

Traffic was a key concern of stakeholders for this the Project. These concerns were particularly focused on the operation phase, but traffic was also a concern during construction. Key issues associated with traffic include congestion (covered Section 6.6), impacts on air quality and noise (covered in Sections 6.1 and 6.2 respectively) and impacts on health and safety which are covered here.

Other impacts identified include security measures in and around the site, issues associated with the poor management of waste and hazardous materials, infectious disease control and impacts associated with emergency events, such as fire. Security measures, infectious disease control and emergency events are described below and impacts associated with hazardous waste described in Section 6.5.3 and 6.5.4.

The key receptors for these impacts are the residents of the four Mahalles surrounding the Project site, local businesses, the primary health care center workers and patients and the students and the teachers of the vocational high school. It is worth noting that between 10% and 40% of the population living in the local area are under 5 years (with Korukent Mahalle population at 18%). These sage group may be particularly sensitive to impacts associated with community, health and safety.

6.11.1 Health and Safety Impacts due to Increased Traffic during Construction and Operation

It is estimated that during construction there will be an additional 80 trucks carrying excavated material to the landfill. There will be also trucks carrying construction materials to the site. A key issue associated with an increase in traffic is the increased potential for accidents affecting other drivers, passengers or pedestrians.

In order to minimize these impacts mitigation measures will comprise of:

- A site specific Traffic Management Plan will be developed and implemented by the Project Company to adequately manage traffic within the Project site. This will be done in close coordination with the Metropolitan Municipality. Efforts will be made to identify measures to improve traffic flow on busy commuter roads. A draft traffic management plan is presented in Appendix-L of the ESIA report and can be used as a framework for the preparation of a site specific plan;
- Additional studies are currently being undertaken to better understand traffic flows around the Project area, to assess how Project-related traffic will affect traffic more broadly across Mersin. The results of these studies will feed into the Traffic Management Plan for the Project, which will be disclosed as part of stakeholder engagement activities;
- The Project will implement an awareness raising campaign with local stakeholders regarding the risks related to the movement of heavy vehicles and increased traffic in the area. The main focus of this campaign will be during the construction phase and will focus on local residents, children (in schools) and the users of local amenities. It will be implemented in coordination with local community groups and the Mukhtars. Details of this campaign will presented as part of ongoing stakeholder engagement activities;
- An Emergency Preparedness and Response Plans is being developed for the Project. This will provide details of what will happen in the case of a major traffic related incident and

define roles and responsibilities. This plan will also be disclosed as part of the stakeholder engagement activities;

- Warning signs will be placed at gates through which truck enter and exit from the construction site.

Impacts are expected to be reduced to **minor** with the implementation of the described mitigation measures.

6.11.2 Security Within and Around the Project Site during Construction and Operation

Concerns have been raised by stakeholders regarding security of the site during construction and the potential for accidents and injury to people who might enter the site. Security is highly regulated in Turkey through Law No. 5188 on Private Security Services. However, the inappropriate use of force to secure the site in the event of any incident could compromise the safety and security of individuals in the locality. This in turn, could have impacts on the reputation of the Project Company.

All security personnel will be trained and will operate in accordance with the 'International Code of Conduct for Private Security Providers' as well as Turkish Law No. 5188 on Private Security Services.

In order to minimize these impacts the Project Company has committed that:

- Measures will be taken to discourage entry onto the construction site during construction. This will include fencing and the requirement for identity cards to enter the site;
- Engagement activities prior to construction will ensure that local stakeholders are informed of the risks and consequences of entering the site;
- Security personnel will patrol the site area to prevent any unauthorized access onto the site. They will also ensure protocols for entering the construction site are strictly enforced;
- A management plan for security personnel will be developed and implemented by the Project Company outlining expectations around security, in line with international and Turkish law.
- The grievance mechanism for the Project will capture all grievances raised in relation to security and safety issues. These will be addressed promptly and appropriate actions taken.

The significance of this impact is expected to reduce to minor with the implementation of the described mitigation measures.

6.11.3 Infectious Disease Control

In such a large health campus environment, the spread of infectious diseases has been considered a key impact during the operational phase. Infectious diseases can be spread as a result of improper waste management practices (especially medical waste), through air conditioning systems and as a result of poor sterilization, primarily during operations and medical treatment.

The project design assumes that robust health management practices will be followed and that any spread in infectious diseases will be an unlikely, non-routine event, only resulting from poor management practices.

Specific mitigations include:

- The prevention of the spread of infectious diseases all waste management and hazardous material management plans will be actively enforced by the Project Company and their implementation monitored.
- Infectious disease control will be managed as part of the Dual Management system specified in Appendix-A of the ESIA report. The specific details for infectious disease management had not yet been confirmed at the time of writing and will need to be established as a matter of priority.
- An occupational health and safety management system will be established for all staff with specific training on exposure to vector-borne diseases. In particular, in accordance with IFC guidelines, this management system will ensure:
 - the separation of clean / sterilized and dirty / contaminated materials and people flows;
 - development and inclusion of adequate disinfection / sterilization procedures and facilities;
 - adequate space for the storage of recyclable materials for pick-up;
 - adequate supplies of potable water to reduce the risk of exposure to water borne diseases;
 - selection of heating, ventilation and air conditioning systems that provide isolation and protection from airborne infections;
 - provision of hazardous material and waste storage and handling areas;
 - treatment and exhaust systems for hazardous and infectious agents; and
- the selection of easily cleaned building materials that do not support microbiological growth, are slip resistant, non-toxic and non-allergenic.

The significance of this impact is expected to reduce to minor with the implementation of the described mitigation measures.

6.11.4 Healthcare Provision

The main consequence of this Project is the provision of a new, state of the art medical facility providing improved health services for a large proportion of the Mersin population. This service will be available to the most vulnerable and poorest for free through the “green card” system. This will have a beneficial effect on the wider community.

Access to the healthcare facilities will be improved, regional development will be contributed, efficiency and quality of healthcare services will be improved, new technologies will be used, bed capacities of the Mersin will be increased. These are the main Project benefits, resulting in positive impacts.

6.11.5 Emergency Event: Fire Safety

6.11.5.1 Fire Safety During Construction

It is important to consider the risks of fire on construction sites and the subsequent effects this may have on construction staff and local stakeholders.

In order to minimize the risks of fire during construction the Project Company will:

- require the EPC Contractor to prepare a Construction Management Plan (CMP) and Emergency Preparedness and Response Plan (EPRP) to manage any such incidents on the construction site.

The significance of this impact is expected to reduce to negligible with the implementation of the described mitigation measures.

6.11.5.2 Fire Safety During Operation

Fire incident that may occur during construction is an important issue that may affect construction staff and possibly a small percentage of the local population.

Emergency actions to be taken will be stated in the pertinent section of the Construction Management Plan to be prepared by the EPC Contractor of the SPV.

The risk of fire in health care facilities at operation stage is significant due to the storage, handling, and presence of chemicals, pressurized gases, boards, plastics, and other flammable substrates. In this respect, life and fire safety was one of the primary concerns in the design process. Therefore, detailed studies for fire safety arrangements have been carried out. Key management decisions such as location of fuel tanks, fire hoses and water reels are of great importance for immediate and sufficient response in a fire case and these were incorporated into the Project design to ensure rapid response as required.

SPV will develop an Emergency Preparedness and Response Plan and Policy that will outline the roles and responsibilities of SPV and government emergency response units. The Plan will also outline the organizational structure for responses, communication, procedures,

training and resources for responding to emergencies. This plan will identify all major accident and hazard risks and outline measures in the event of a major accident or hazard. These measures will include response to not only fire, but also flood and earthquake. The Emergency Preparedness and Response Plan will also contain measures for review of response procedures and other measures at least on an annual basis.

A Life and Fire Safety Audit will be conducted pursuant to Section 3.3. of the EHS General Guidelines of the IFC dated April 30, 2007 prior to operation. According to the guidelines, the Life Safety Code published by the National Fire Protection Association will be followed.

The significance of this impact is expected to reduce to **negligible** with the implementation of the described mitigation measures.

6.12 Access to Services and Infrastructure

There are a number of key services within the local area surrounding the Project site. These include;

- Two Pre-schools,
- Five Primary Schools,
- Five Middle Schools,
- Six High Schools,
- Three Community Health Centres,
- An Ambulance Service,
- Twelve Pharmacies,
- Ten Mosques,
- Two Shopping Malls,
- Nine Markets,
- A Cemetery,
- Six Café,
- Thirteen Parks,
- An industrial estate.

People from within the locality, as well as regionally, use these public services and are the main receptors.

There is concern amongst stakeholders that the increase in traffic associated with the Project will result in increased travel times to reach local services. There is already dissatisfaction with current transportation infrastructure and so there is significant concern about additional impacts as a result of the Mersin IHCP.

In order to mitigate these impacts:

- The traffic management plan will be the basis for reducing the traffic load. The Metropolitan Municipality is responsible of the implement measures to ensure traffic safety such as schools and hospitals in places, which are important for pedestrian safety, identify and. Alternative public transportation ways are planning for accessing to the Project site. SPV is continuing negotiations about this public services with the Metropolitan Municipality.
- A new subway to the Project area is currently under construction. The Project Company will work with the local municipality to support campaigns encourage people to use public transport to minimize vehicle traffic.

Impacts are expected to reduce to **minor** with the implementation of the described mitigation measures.

6.13 Occupational Health, Safety and Working Conditions

6.13.1 Occupational Health and Safety

The Project Company will be responsible for human resources for the construction period and for non-clinical staff for the operations period. Turkey is currently in the middle of a harmonization process with the European Union and labour laws are being reviewed to ensure alignment. The Project will comply with national labour, social security and occupational health and safety laws as well as the principles and standards of ILO convention. The national principles embodied in the ILO convention are:

- The abolition of child labour: The Project Company will not employ children under the age of 18.
- The elimination of forced labour: Forced labour is contrary to the Constitution of the Republic of Turkey and the European Convention on Human Rights. The Human Resources policy of the SPV will be compatible with the European Convention on Human Rights and the Turkish Constitution.
- The elimination of discrimination: Turkish Labour Law Article 5 states “Discrimination based on language, race, sex, political opinion, philosophical beliefs and religion is not permissible in the employment relationship”.
- Collective bargaining: Under the Act of Collective Bargaining Agreement on Trade Unions Act No. 6356 and 4857 Labour Law, workers have the right to collective bargaining and other rights.

Labour Law (4857) applies to all establishments and to their employers, employees, employer’s representatives and employee representatives, irrespective of the subject matter of their activities.

6.13.2 Working Conditions

During the construction phase, 2,535 workers will be employed at peak construction times in months 9, 10 and 11. During operation, the hospital complex is expected to employ up to 1,664 including Health Staff (Doctors and Nurses), Waste Management, Laundry, Imaging, Security, Disinfection, Laboratory, Car Park, Rehabilitation, Sterilization, Transportation / Reception, Cleaning and Kitchen. As a consequence of Project activities, the following impacts will be considered:

- **Occupational Health and Safety:** Construction work involves high risk activities with the potential for accidents that may result in injuries and potential fatalities. During operation, cleaning, medical, waste management and other staff will be exposed to clinical waste including sharps, other hazardous waste which may expose hospital staff to general infections, blood-borne pathogens and other infectious materials during care and treatment, as well as during collection, handling, treatment and disposal of medical waste. While the SPV and MoH will implement procedures to manage health and safety risks, meeting IFC PS2 standards may be a challenge, especially for some contractors and those in the supply chain. Workers who are in the supply chain may be particularly vulnerable.
- **Workers' Rights:** Although workers employed directly by the MoH and SPV are likely to have workers' rights in line with the ILO conventions including collective bargaining rights, these need to be clearly written into management practices. In particular, SPV and the MoH must ensure that direct employees can work free of any discrimination, regardless of race, religion or belief, gender, disability, age, nationality, sexual orientation or ethnicity. In addition, Responsible Procurement processes must work to ensure the supply chain do not violate workers' rights, do not use child labour or forced labour and allow freedom of association and collective bargaining.
- **Retrenchment:** Retrenchment of workers is likely to be required across the lifespan of the Project, particularly during the transition from construction to operation. Retrenchment of workers will be undertaken in line with national law and international best practices, and will include providing skills to enable individuals to secure alternative employment.
- **Workers' Accommodation:** The Project is planning to build a construction camp on site for construction workers. Workers' living conditions need to be of international standard to ensure on-site living conditions provide adequate sanitary and waste management and the provision of potable water. These standards will be maintained for the lifespan of workers' accommodation. A workers accommodation plan for construction has been prepared.

The following mitigation measures will be implemented by the Project Company to minimise impacts associated with workers' rights, health and safety, retrenchment and workers' accommodation:

- The Project has developed an occupational health and safety management plan for construction phase. The plan for the operation phase will also be prepared and will set standards that will be met by SPV and all its contractors and sub-contractors.
- The Project will create and implement a health and safety management system for the Project. It will include mandatory health and safety training courses for SPV workers and contractors, including handling hazardous material and medical waste. The training will take place prior to work starting on construction and operation. Training course attendance will be recorded and monitored by the Project. The Project will also monitor the implementation of occupational health and safety regulations by contractors through twice yearly audits by health and safety specialists. If contractors are found to be breaching the laws on occupational health and safety, it will result in the loss of the contract.
- The health and safety management system will also incorporate the following measures in compliance with IFC standards for health facilities: staff and visitors will be provided with information on infection control; and universal standards will be developed to treat all blood and other potentially infectious materials.
- The Project will abide by Turkish laws and regulations and Performance Standard 2 and ILO conventions when gaps are identified between national legislation and international standards. The Project will monitor the implementation and compliance to these standards by contractors and sub-contractors across the supply chain.
- SPV will require all contractors to sign an anti-corruption and responsible procurement policy. Thus for all contractor contracts, the Project will make explicit reference to the need to abide by Turkish Law and ILO conventions in relation to labour and welfare standards, freedom of association and reference must be made to child and forced labour. Emphasis will also be placed on anti-discrimination measures. Where young people below the age of 18 years are employed, it will be made clear that they will not be employed in hazardous work and their work will be subject to an appropriate risk assessment.
- SPV will liaise with the MoH to ensure alignment of both parties to Turkish law and ILO conventions with respect to workers' rights and anti-discrimination measures.
- Workers will have contracts which clearly state the terms and conditions of their employment and their legal rights. All workers will be able to join trade unions of their choice and have the right to collective bargaining.
- Wages, benefits and conditions of work offered will be comparable to those offered by equivalent employers in Mersin.
- Although an informal grievance mechanism is in place, the Project and all contractors will put in place a formal worker grievance mechanism. The SPV grievance mechanism will be open to all SPV staff and their contractors. The Turkish Government also has a general grievance mechanism that is used for patient rights. "184-Patient Rights" is a phone line developed for patients living across the country and is accessible 24/7. The

grievance mechanism will be publicly advertised by the Project in the workforce. It will be easily accessible by workers, free of retribution and will allow anonymous complaints to be raised and addressed.

- In the case where contractors are unable or unwilling to address issues raised through their grievance mechanism or through the SPV grievance mechanism, SPV will take actions to remedy the situation which might result in the loss of the contract by the contractor.
- A management plan will be put in place for the construction camp, outlining not only a code of conduct for construction workers but also measures for managing the camp to ensure adherence to international standard for providing a safe environment that is clean and with adequate sanitary and waste management and the provision of potable water. Provisions will also be made for outlining the minimum amount of space for each worker, laundry and cooking facilities, the provision of first aid and medical facilities, heating and ventilation. The management provisions will also make it clear that workers are free to move to and from employer provided accommodation in accordance with a code of conduct with respect to the surrounding community.
- A retrenchment plan for non-medical staff will be put in place to mitigate adverse effects of job losses on the workers concerned.
- All management plans described above much clearly outline key roles and responsibilities and a monitoring framework.

Residual Impacts

If all workers related management plans and practices are put in place and international conventions are abided by and monitored, then the overall residual impact to working conditions will be **positive** with mitigation measures providing a secure and safe working environment free of discrimination.

6.14 Cultural Heritage

According to the letter from the Museum Directorate it was declared that no cultural assets, which need to be protected, were encountered at the site. Nevertheless, the Directorate strongly recommended that any archaeological chance find during construction will be reported to the museum directorate immediately, there are no archaeological assets that need to be protected in the site.

A Chance Find Procedure will be prepared, and it will be implemented as part of the ESMS to be established in the context of the Project.

6.15 Cumulative Impacts

Cumulative effects result from the combined impacts of multiple developments. The impacts of a development in isolation may not be significant but when combined with other projects it may become significant.

Similarly, the project should not be considered in isolation. In the assessment of potential environmental effects, it is important to include projects that may begin construction or operation within the same period as that of the proposed development. This Cumulative Effects Assessment (CEA) seeks to determine the effect of the development in combination with the other planned changes in the wider area and provide an assessment of the likely significance of any changes.

Cumulative effects are understood to be changes to the environment that are caused by an action in combination with other past, present and future actions (Hergmann et al. 1999). These may include:

- Effects over a larger area;
- Effects over a longer period of time;
- Effects on areas of special environmental sensitivity due to interactions with other actions; and,
- Other existing and future actions.

The assessment of cumulative effects is required at the project level in EIA by the European Community Directive 'The Assessment of Certain Public and Private Projects of the Environment' (85/337/EEC) as amended by Council Directive 97/11/EC.

There will be urban development around the IHC. However, according to the 1/10,000 Zoning Plan, the site will not be surrounded by new settlement areas. In addition, it is not clear at this stage when the construction of these areas will start. Thus, the new settlement areas are not included in the area of influence.

As for the operational phase, it is not possible at this stage to foresee future developments in the area. However, it should be noted that the most important cumulative impact will possibly be due to increased traffic. Hence, any future planning made by the Metropolitan Municipality of Mersin regarding traffic management will be adopted where possible in the site specific traffic management plan implemented by the SPV.

7 STAKEHOLDER ENGAGEMENT AND PUBLIC DISCLOSURE

A Stakeholder Engagement Plan has been prepared in line with the IFC standards and Equator Principles, since the UniCredit is a member of the Equator Principles Financial Institutions (EPFI). The SEP (Appendix E of the ESIA report) serves to provide all stakeholders with the means to express their opinions and concerns.

Key stakeholders for the Project, including government representatives, local business owners and local communities have been engaged as part of Project development. A variety of mechanisms have been used including open meetings, focus group discussions, and announcements on the radio, in newspapers and on billboards.

A number of key concerns and recommendations have been raised during stakeholder engagement to date, all of which have been considered within the ESIA report

In order to maintain regular communication with affected communities, a Public Relations Officer (PRO) has been hired. The PROs will be responsible for identifying, informing and recording public views and opinions and for relaying them to the necessary person for follow up (as detailed in the grievance mechanism in Section-8). Contact details for this office are:

- Name: Emre Kitapçı
- Tel: +90 212 377 19 00;
- Fax: +90 0212 251 49 89
- Email: info@mersinentegre.com
- Address: Meclis-i Mebusan cd. Inebolu Sk. 1A Ekemen Han Kat:3-4 Kabataş, Beyoğlu/Istanbul

Stakeholder engagement will continue throughout design finalization, construction and operation. Key stakeholders will be kept informed about the progress of the Project, have the opportunity to provide feedback on the effectiveness of mitigation and enhancement measures and to raise any concerns or grievances. During this process key stakeholders will receive meaningful and accessible information about the mitigation/enhancement and management measures contained in the Environmental and Social Management and Monitoring Plan (ESMMP).

8 GRIEVANCE MECHANISM

A grievance management process will be established for the MIHCP. This will provide a formal and on-going avenue for stakeholders to engage with the Project. This grievance mechanism will be accessible to all sections of the affected community, at no cost and will not impede access to other judicial or administrative remedies. Affected communities will be repeatedly informed about the grievance process over the course of community engagement activities. Full details of this mechanism are contained in the SEP which is in Appendix E of the ESIA report.

The Turkish Government also has a general grievance mechanism that is used for patient rights. "184-Patient Rights" is a phone line developed for patients living across the country and is accessible 24 hours a day, every day of the week. SABİM (Sağlık Bakanlığı İletişim Merkezi-Communication Centre of Ministry of Health) aims to solve problems in the health care services as rapidly as possible. Operators of SABİM keep records of complaints and deliver them to the relevant authorized personnel in the MoH.

Contact Details for SABİM:

E-mail	sabim@saglik.gov.tr
Fax	0312 286 13 57
Tel	184 - 0312 258 50 63
Post	Ziyabey Main Street 1419 Street No:9 Balgat Ankara/Turkey