

APPENDIX-N

Commitments Register

DHI-QAR COMBINED CYCLE GAS TURBINE POWER PLANT PROJECT

COMMITMENTS REGISTER

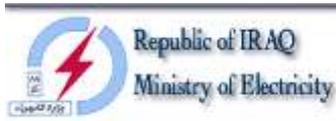
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LIST OF ABBREVIATIONS

2U1K	2U1K Muhendislik ve Danismanlik A.S.
Aol	Area of Influence
API	American Petroleum Institute
CEMS	Continuous Emissions Monitoring Systems
CPR	Cardiopulmonary Resuscitation
DAF	Dissolved Air Flotation
DU	Depleted Uranium
DWWTP	Domestic Wastewater Treatment Plant
EBRD	European Bank for Reconstruction and Development
EHS	Environmental Health Standards
EMF	Electromagnetic Force
EPC	Engineering, Procurement, and Construction
ESMMP	Environmental and Social Management and Monitoring Plan
GHG	Greenhouse Gases
GT	Gas Turbine
HSE	Health, Safety and Environment
IFC	International Finance Corporation
ILO	International Labor Organization
MoE	Ministry of Electricity
OHS	Occupational Health and Safety
OWTP	Oily Water Treatment Plant
PM	Particulate Matter
PPE	Personal Protective Equipment
PS	Performance Standard
ppm	Parts Per Million
WHO	World Health Organization
WTP	Water Treatment Plant

1. TABLE OF COMMITMENTS

Table 1-1 Table of Commitments

Subject	Project Phase	Commitments	Project Standards*	Comments
General	Operation	<ul style="list-style-type: none"> Preventive maintenance will be implemented for power generators to ensure combustion efficiency. 	N/A	
Air Quality Management	Construction	<ul style="list-style-type: none"> In order to prevent generation of dust, roads will be regularly sprinkled with water, especially during dry and windy weather conditions. Loading and unloading of construction materials will be performed in a proper way to prevent generation of dust. Vehicles loaded with dust generating materials will be covered during transportation. The speed limit of 30 km/h will be applied for the drivers. Materials stored within the project area will be monitored for dust emissions and covered or damped if required. Maintenance of the heavy machinery will be conducted periodically in order to control the exhaust emissions. Equipment/vehicles will be turned off when not in use. If any complaints related to dust emissions are received from local communities, the EPC Contractor will conduct PM₁₀ measurements at the closest settlement in order to determine the levels of the PM₁₀ emissions generated during the construction activities and will take the required measures to mitigate the emissions. 	The Project standards on ambient air quality and air pollutant emissions are provided in Table 2-1 and Table 2-2 , respectively.	
	Operation	<ul style="list-style-type: none"> Natural gas will be utilized as primary fuel for power generation. Crude oil will be utilized for 500 hours per year at the most, to be excluded from the limits of the IFC EHS Guidelines for Thermal Power Plants. Continuous emissions monitoring systems (CEMS) for NO₂, SO₂ and CO as well as O₂ as reference variable will be installed on each stack of the Power Plant in order to measure the pollutant levels from the stacks. Ambient air quality monitoring will also be conducted 		

		<p>periodically in order to ensure that the limits are complied with.</p> <ul style="list-style-type: none"> Emissions from the Project out of the stacks will comply with the emission guideline values. The plant will be equipped with low NO_x combustion technology to minimize the NO_x emissions in order to comply with the required emission standards. Water injection will be applied for the low NO_x combustion technology to minimize the NO_x emissions in order to comply with the required emission standards. The water with 127 m³/hour flow rate for water injection of the system will be supplied from Euphrates River. Additional emission abatement methods such as load reduction by shutting down one or more GTs during seasons which can lead to high emission concentrations based on monitoring data (from in-stack measurements and ambient air quality monitoring within the Aol); will be evaluated during liquid fuel combustion for the operation of the Power Plant. GHG emissions inventory will be prepared annually to monitor GHG emissions from the Project. 		
Noise and Vibration Management	Construction	<ul style="list-style-type: none"> Good working practices will be implemented at the site through the construction phase. Noise control measures will be adopted where necessary, i.e. maintenance of the construction equipment will be conducted regularly, number of the equipment operating simultaneously will be minimized and practical exhaust mufflers will be applied to the equipment in order to minimize the noise emissions. The speed limit of 30 km/h will be implemented for the vehicles at the construction site and on the access road. Noise generating activities will not be conducted during nighttime in order to prevent disturbance to the local communities. If any compliance is received, noise measurements will be conducted at the closest sensitive receptor. 	<p>Since there are no national environmental noise standards in Iraq, the guideline values stipulated in the IFC EHS Guidelines on Environmental Noise Management have been adopted as the Project standards, which are provided in</p> <p style="text-align: center;">Table 2-3.</p>	
	Operation	<ul style="list-style-type: none"> Maintenance of noise generating equipment will be conducted regularly in order to prevent increased noise levels from equipment. 		

		<ul style="list-style-type: none"> • Silencers, mufflers or acoustic enclosures will be installed to reduce sound power level of noisy equipment. • Noise measurement will be conducted at the start of the operation in order to monitor the noise levels at Al Sadah village. • If exceedance of the limit values occurs, acoustic barriers close to the source or to the receptor to minimize the transmission of sound will be installed. 		
Water Resources Management	Construction	<ul style="list-style-type: none"> • Water required throughout the construction phase will be withdrawn from the Euphrates River, which is located at a distance of approximately 1 km to the Project site. 	N/A	
	Operation	<ul style="list-style-type: none"> • Water required throughout the operation phase will be withdrawn from the Euphrates River. 		
Water Quality Management	Construction	<ul style="list-style-type: none"> • Water required throughout the construction phase will be obtained from the Euphrates River, and will be treated at the Water Treatment Plant (WTP) to be established within the Project site, before use for domestic purposes. • A WTP will be used to generate potable water and demineralized water. It will be comprised of a pre-treatment system, demineralization system and potable water system. • Safe drinking water supply will be provided for all workers. • WHO drinking water quality standards will be complied with for drinking and potable water uses. 	The Project standards on drinking and potable water quality are provided in Table 2-4 .	
	Operation	<ul style="list-style-type: none"> • Water required throughout the operation phase will be obtained from the Euphrates River, and will be treated at the Water Treatment Plant to be established within the Project site, before use both as potable water for domestic purposes and demineralized water for industrial processes. • Safe drinking water supply will be provided for all workers. • WHO drinking water quality standards will be complied with for drinking and potable water uses. • The treated water will be transferred to a firewater storage tank, a demineralized water storage tank and a potable water storage tank. 		
Wastewater Management	Construction	<ul style="list-style-type: none"> • A temporary domestic wastewater treatment plant will be established at the Project site for the domestic wastewater generated throughout the construction phase. The treated wastewater will be discharged back into the Euphrates River. It will comply with both the Iraqi wastewater 	The Project standards for treated wastewater are provided in Table 2-5 .	

		<p>discharge standards and the guideline values specified in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality in order to prevent any contamination of the Euphrates River.</p>		
	<p>Operation</p>	<ul style="list-style-type: none"> • Untreated wastewater discharge to the environment will be prohibited. • Drainage systems for storm water, sewage water, chemical and oily water will be established within the Power Plant area in order to collect wastewater separately. • A domestic wastewater treatment plant (DWWTP) will be established for treatment of the domestic wastewater generated throughout the operation phase of the Project. The treated wastewater will be discharged back into the Euphrates River. • The flow rate, temperature and pH of the effluent from the DWWTP will be monitored. The effluent from the DWWTP will be cooled down to 35°C and below before its discharge to the River as per the related Iraqi legislation. • An oily water treatment plant (OWTP) will be established for oil-contaminated wastewater mainly generated during maintenance of the equipment and at tank storage areas throughout the operation phase of the Project. The treatment plant will include an API oil/water separation system and if required, also DAF type oil/water separation and a filtration unit. Oily water will be separated through the separator and effluent water will be transferred to the storm/process water collection basin. Oil will be handled according to the Hazardous Waste Management Plan. • The treated domestic wastewater, separated water phase of the oily water, effluent from the process water treatment plant and combined cycle plant equipment as well as the storm water will be mixed in the storm/process water collection basin where temperature will be regulated with the quenching water from the river. Quenching water will be used from the river where there is back ground ammonia, therefore there will be some ammonia in the plant discharge water, however, it will not exceed the baseline value. • Discharge of the treated wastewater from the collection basin will be at one location and to the surface of the 		

		<p>Euphrates River, in compliance with the Iraqi wastewater discharge standards and the guideline values specified in the IFC EHS Guidelines for Thermal Power Plants.</p> <ul style="list-style-type: none"> The effluent quality will be monitored for compliance with both the Iraqi wastewater discharge standards and the guideline values specified in the IFC EHS Guidelines for Thermal Power Plants in order to prevent any contamination of the Euphrates River. 		
Soil Quality Management	Construction	<ul style="list-style-type: none"> Topsoil will be stripped during the site preparation activities, and will be stored separately at the Project site to be used for landscaping purposes. Topsoil will be covered to prevent erosion during its temporary storage. Excavated material will also be temporarily stored at the Project site and will be used for backfilling during the construction activities. Stored material will be covered or will be dampened to prevent generation of dust. Type V sulphate resisting cement must be used in all concrete works that will be in contact with the soil. 	<p>Since there are no applicable national soil quality standards in Iraq, the Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health have been adopted as the Project standards, which are provided in Table 2-6.</p>	
	Operation	<ul style="list-style-type: none"> Clean fuel drains from skids will be collected in isolated pits and sump tanks, and will be trucked away by licensed companies. Clean fuel drains will not be mixed with oily water network or any other plant network. Drip pans will be used during the maintenance activities and fuel refilling. Spill kits will be available at the Project site in order to respond immediately to the spill events. A Spill Response and Prevention Procedure will be implemented throughout the lifetime of the Project. An Emergency Response Plan will be developed for soil and groundwater contamination. The fuel/oil storage tanks will be located on impermeable ground with secondary containment in order to prevent any contamination to soil or groundwater in case of any spill or leakage. Secondary containment for the storage tanks will be impervious and chemically resistant and will contain berms or dikes with capacity larger than 110 percent of the largest tank. 		

<p>Storm Water Management</p>	<p>Construction/Operation</p>	<ul style="list-style-type: none"> Oil/water separators will be installed to treat the surface run-off from bunded areas before discharge to the storm water system. Washing water effluents will be collected in a washing water recovery pit (prior to the off-site disposal via trucks). The ground must be sloped away from the structures as much as possible and this slope must be maintained so that the runoff water will be carried away from the foundations, and will be drained into the lined ditches. 	<p>IFC's Performance Standard 3 on Resource Efficiency and Pollution Prevention as well as IFC's EHS Guidelines for Thermal Power Plants and IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality will be applied.</p>	
<p>Waste Management</p>	<p>Construction/Operation</p>	<ul style="list-style-type: none"> Improper dumping of solid waste to the environment which can cause soil and groundwater contamination will be prevented. Wastes will be collected and stored separately according to their types. Workers will be trained to reduce and reuse the wastes generated. Domestic solid waste will be stored in closed leak-proof containers in order to prevent any leakage to soil and also to prevent generation of odour. Temporary waste storage areas will be in compliance with the IFC standards. The Project will enter into a waste disposal services contract with the district authority for the arrangement of disposal of the wastes generated due to the Project activities. A Waste Management Plan that has been developed for the Project will be implemented for the collection, storage and disposal of the wastes. 	<p>IFC's Performance Standard 3 on Resource Efficiency and Pollution Prevention as well as IFC's EHS Guidelines for Thermal Power Plants and IFC's General EHS Guidelines on Environmental Waste Management will be applied.</p>	
<p>Hazardous Materials and Waste Management</p>	<p>Construction</p>	<ul style="list-style-type: none"> Hazardous wastes will be collected and stored separately in the leak-proof containers. Secondary containment will be provided for the storage containers. Hazardous waste storage areas will have concrete floor to prevent any leakage to soil. Disposal of the hazardous wastes will be carried out by an authorized party. Spill kits will be available at the construction site for immediate response to any spill. A Waste Management Plan and a Spill Response and Prevention Procedure that have been developed for the 	<p>IFC's Performance Standard 3 on Resource Efficiency and Pollution Prevention, IFC's EHS Guidelines for Thermal Power Plants as well as IFC's General EHS Guidelines on Environmental Waste Management and Environmental Hazardous Materials Management will be applied.</p>	

		Project, will be implemented for the collection, storage and disposal of hazardous wastes.		
	Operation	<ul style="list-style-type: none"> The fuel storage tanks and chemical storage areas will be prevented from any unauthorized access. Sludge will be collected in a storage tank prior to the off-site disposal via trucks. Disposal of the sludge will be undertaken by an authorized party. Hazardous wastes will be collected and stored separately in the leak-proof containers. Secondary containment will be provided for the storage containers. Hazardous waste storage areas will have concrete floor to prevent any leakage to soil. Disposal of the hazardous wastes will be carried out by an authorized party. Spill kits will be available at the Project site for immediate response to any spill. A Waste Management Plan and a Spill Response and Prevention Procedure that have been developed for the Project, will be implemented for the collection, storage and disposal of hazardous wastes. 		
Biodiversity and Ecosystem Services Management	Construction	<ul style="list-style-type: none"> Capoeta barroisi and Carasobarbus kosswigi will be monitored every spring season throughout the construction activities in terms of their population. If any decrease in their population is observed, additional measures will be evaluated. Cross arms, insulators and other parts of the ETL will be constructed so that birds find no opportunity to perch near the energized power lines. Visibility enhancement objects such as marker balls, bird deterrents, or diverters will be employed to eliminate or minimize bird mortality. The construction site will be fenced or restrained to prevent any unauthorized access. The vehicles will drive on the designated routes unless otherwise authorized. The existing roads will be used as much as possible throughout the construction phase. 	IFC's Performance Standard 6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources and IFC's EHS Guidelines for Thermal Power Plants will be applied.	
	Operation	<ul style="list-style-type: none"> Capoeta barroisi and Carasobarbus kosswigi will be monitored every spring season for three years. 		

		<ul style="list-style-type: none"> If spreading of any invasive species is observed, an appropriate eradication program will be developed and implemented. 		
Land Use Management	Construction/Operation	<ul style="list-style-type: none"> In case of requirement of further land acquisition, priority will be given to the governmental land. In case further land acquisition is required by the private land owners, the process will be realized in cooperation with the related governmental institutions and the Project Affected People will be compensated on cash terms based on the expropriation values. Compensation standards will be transparent and applied consistently to all communities and persons affected by the displacement. The land acquisition process should ensure that disclosure of the information includes a well-publicized grievance procedure consistent with the provisions of the IFC PS 5. The Project will minimize damage to crops by minimizing the area of disturbance caused by vehicle movement and other construction activities. Any loss of or damage to crops or lands caused by the Project activities will be compensated. Although the Subcontractor is not responsible for the land acquisition or compensation to any affected landowners, a grievance mechanism will be utilized to convey any concerns from the affected local residents to the local authorities. 	IFC's Performance Standard 5 on Land Acquisition and Involuntary Resettlement will be applied.	
Labour Management	Construction/Operation	<ul style="list-style-type: none"> The workers' representatives will be given access to the Project management. The opportunities will be reviewed to establish a skills training program with an aim of training the interested authorities and local villagers to contribute to the construction/operation phases of the Project. A transparent recruitment process will be established by the Project Subcontractor and the employment opportunities will be announced to the locals. The local jobseekers will be given preference and only if the required skills and experience are not available locally, Iraqi workers will be imported from elsewhere in the country. The Project Subcontractor has a corporate level human 	IFC's Performance Standard 2 on Labor and Working Conditions will be applied.	

		<p>resources policy, which observes wage standards, working time regulation, freedom of association and staff encouragement. The policy will also eliminate child and forced labour, discrimination on the basis of religion, language, gender or social status, bullying and harassment. This policy will be implemented by all the contractors to cover local employment and training of local people.</p> <ul style="list-style-type: none"> • It is expected that a human resource labour policy shall be developed. Under the policy, the project proponent shall provide all employees with information regarding their rights under national labour law, including their rights related to wages and benefits. The policy will cover working conditions, right to organize, non-discrimination, grievance mechanisms, child labour, and forced labour. ENKA has a labour policy and a subcontractor agency, which can ease and accelerate these targets. ENKA's HSE procedure will include requirements for induction and training on expected behaviours and on disciplinary procedures (including dismissal procedures for unacceptable conduct). • The Project Owner will establish human resources policy, which observes wage standards, working time regulation, freedom of association and staff encouragement, for all employees. The policy will cover working conditions, right to organize, non-discrimination, and grievance mechanisms. It will eliminate child and forced labour, discrimination on the basis of religion, language, gender or social status, bullying and harassment. • Throughout the hiring process, the Project will abide by the labour standards established by the IFC PS 2 and ILO conventions when gaps are identified between the national legislation and international standards. The Project will monitor the implementation of and compliance with these standards by the contractors and sub-contractors across the supply chain. • All Project parties 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 IFC standards and ILO conventions in relation to labor and welfare standards, freedom of association and reference must be made to child and forced labor. Emphasis will also be placed on anti- 		
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		<p>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.</p> <ul style="list-style-type: none"> • The locals will be informed about the employment opportunities in a timely manner. If there are no eligible candidates among the applicants, the job announcements will be announced by banner, newspaper and radio, internet and Governorate office. • For the construction phase, the workers will be trained in advance of their accommodation in Iraq. • 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 (separate area for the foreign personnel, if necessary), the provision of first aid and medical facilities, heating and ventilation. • A Code of Conduct will be in use as well. Code of conduct will outline expected behaviour with respect to their daily interactions with local residents, if any, 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 the requirements for induction and training on the expected behaviours and on disciplinary procedures (including the dismissal procedures for unacceptable conduct). • Due to the security purposes, interactions of the workers, especially the foreigner ones, to the surrounded community will be limited. Therefore, the Project site will provide all the necessary needs of workers, including daily needs, meals, accommodation areas and recreation areas. For the Indian workers, culturally appropriate food and religious areas will also be provided within the Site. • Interactions between locals and foreign workers will be minimized to the extent as possible with the security measures and all foreign workers will be trained regarding 		
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		<p>the nature of the Aol prior to arrival.</p> <ul style="list-style-type: none"> • Throughout the phases of the Project, the workers will have contracts, which clearly state the terms and conditions of their employment and their legal rights. Information will include, but not limited to, entitlement of wages, hours of work, overtime arrangements and overtime compensation, and any benefits (such as leave for illness, maternity/paternity or holiday). All workers will be able to join trade unions of their choice and have the right to collective bargaining. Contracts will be verbally explained to all workers where this is necessary to ensure that workers understand their rights prior to any employment contract to be signed. • Especially for the local employees, wages, benefits and conditions of work offered will be comparable to those offered by equivalent employers in Dhi-Qar Governorate. • Cultural awareness training will be provided as an on-boarding requirement to all non-local workers, and in particularly foreign workers, in order to prevent cultural clashes with regards to dress codes, food consumption, etc. • The Project will put in place an employee grievance mechanism in order to receive, handle and record the complaints. • The grievance mechanism will be publicly advertised among the workers. It will be easily accessible by the workers, free of retribution and will allow anonymous complaints to be raised and addressed. • The grievance mechanism will be monitored and all necessary steps will be taken to avoid further discomfort among the locals, when necessary. • Accommodation services will be provided to all foreign Project workers within the Project site in compliance with the guidance note, developed jointly by IFC and the EBRD, on "Workers' Accommodation: Processes and Standards" (2009). • A retrenchment plan will be put in place to mitigate adverse effects of job losses on the workers concerned. 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 		
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		<p>undertaken in line with the national law and international best practices, and will include providing skills to enable individuals to secure alternative employment.</p> <ul style="list-style-type: none"> • The foreign workers will be trained regarding the security measures and limits prior to arrival and will be aware that they will be occupied within the Site borders only. The foreign workers will be assisted via security personnel to their transportation as soon as their arrival to the airport and this process will be applied for the time their departure as well. Therefore, no interaction with the foreigners will be experienced among the local community. Since foreign workers will only be accommodated at a camp which will have a range of on-site amenities. This will minimize the need for the workforce to utilize (or rely on) local infrastructure – i.e. minimizing the pressure that may be experienced by community infrastructure and services. (As to their agreement, at the conclusion of the construction phase, the workers brought in from outside the area will leave back to their country or residence.) • The Project Owner should consider social investment/ corporate social responsibility plan/ program. As part of the plan, Aol should explore opportunities to enhance community infrastructure and services. • The Project Owner should ensure appropriate and adequate health care services are provided on site and at the accommodation camp to address/ manage worker illnesses and injuries. • Electricity usage will be monitored. • All workers will be trained in terms of electricity usage within the Project site and will be encouraged to avoid unnecessary electricity use. • Throughout the Project phases, the labour influx and its associated negative impacts should be monitored closely in order to take appropriate and immediate action where necessary. In order to monitor the labour influx and its impacts, the Project will implement and disseminate a community level grievance mechanism, through which local community members can submit concerns and complaints about influx and related negative impacts, and the village heads and relevant governmental authorities will be regularly engaged to discuss and monitor the influx and any 		
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		<p>associated impacts, especially monitor the changes in electricity cuts during the construction phase.</p>		
<p>Occupational Health and Safety (OHS) Management</p>	<p>Construction/Operation</p>	<ul style="list-style-type: none"> • Sufficient working conditions in line with the Iraqi legislation and international best practice -if possible- will be ensured as specified in the General Camp Rules document provided by ENKA. It is important to note that all OHS related trainings and awareness meetings, policies and banners should be available in all languages of the Project workers for them to be aware of the precautions. • While ENKA will implement procedures to manage the health and safety risks, the contractors and those in the supply chain will also be required to operate in line with the safety procedures. Safe working environment will be ensured by and will be the responsibility of ENKA; including OHS related issues and camp management and adapting related legislations and management plans. • The potential harms related with the construction activities and the measures to minimize the occurrence of these harms will be defined. The measures will prevent the following hazards and harms, but not limited to the ones listed below: <ul style="list-style-type: none"> ○ Slips and falls; ○ Work in heights; ○ Struck by objects; ○ Moving machinery; ○ Dust; ○ Confined spaces and excavations; ○ Contact with hazardous substances and; ○ Traffic operations. • The Project Owner will develop and implement an Occupational Health and Safety Management Plan, which will be a subset of the overall ESMMP system, tailored to the needs of the Project and the construction and operation phases. This plan will set standards that will be met by ENKA and the sub-contractors. It will include the following: <ul style="list-style-type: none"> ○ Outline of the measures to prevent accidents, injuries and illnesses / diseases; ○ Description of the personal protective equipment (PPE) provided; ○ Description of the preventive and protective measures relating to the modification, substitution 	<p>IFC's EHS Guidelines for Thermal Power Plants and IFC's General EHS Guidelines on Occupational Health and Safety will be applied.</p>	

		<p>or elimination of hazardous conditions or substances; and</p> <ul style="list-style-type: none"> ○ Documentation and reporting of occupational accidents, illnesses / diseases and incidents, emergency prevention, preparedness and response arrangements, in addition to a procedure for identification of near misses and incidents as well as root case analyses of near miss events and accidents. • An Emergency Response Plan will be developed for the Project in order to respond to accidental and emergency situations associated with the Project to prevent and mitigate any harm to people and/or the environment. • The Project will abide by the IFC standards and ILO conventions when gaps are identified between the national legislation and international standards. The Project will monitor the implementation of and compliance with these standards by the contractors and sub-contractors across the supply chain. • Although the DU contamination surveys conducted by the Atomic Energy Agency stated that the DU concentrations in soil are low, appropriate PPE will be provided to the workers to limit any possible exposure of them. • Pre-employment screening will be applied to all workers to ensure workforce fitness for work. However, it is important that the pre-employment screening process does not cause discrimination. • The orientation training will include awareness raising component for the prevention and treatment of communicable diseases. • Healthcare services will be provided onsite, in particular, for the workers who have symptoms of communicable diseases. • Up-to-date first aid boxes will be provided at all construction sites and trained staff should be appointed to manage them. • All workers (regular and contracted) will be provided with training on health and safety policies and toolbox training for specific tasks with appropriate refresher courses throughout the lifecycle of the Project. • Specialized electrical safety training will be provided to 		
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		<p>those workers working with or around exposed components of electric circuits. This training should include, but not limited to, basic electrical theory, safe work practices and procedures, hazard awareness and identification, proper use of PPE, proper lock-out/tag-out procedures, first aid procedures including cardiopulmonary resuscitation (CPR), and proper rescue procedures.</p> <ul style="list-style-type: none"> • Permitting system will be implemented to ensure that lifting equipment is operated by trained and authorized persons only. • Lowering/raising tools and appropriate safety harnesses will be used for working at heights. • The excavated areas will be temporarily fenced to avoid access of the outsiders and wildlife. • All equipment will be turned off and checked when not in use. • The workers will stop working in extreme weather events i.e. heat wave, heavy rain etc. • Strict monitoring of implementation of the mitigation measures and workers' awareness and trainings for the risks of the Project activities will be continuously provided which will result minimizing even avoiding the likelihood of the impacts. • Occupational EMF exposure will be prevented or minimized through the preparation and implementation of an EMF safety program. • Inspection and maintenance of the pressure vessels will be performed regularly. • Adequate ventilation will be provided in work areas to reduce heat and humidity. • The time required for work in elevated temperatures will be reduced. • Surfaces where workers come in close contact with hot equipment, including generating equipment, pipes etc. will be shielded. • Use of warning signs near high temperature surfaces and personal protective equipment (PPE) will be ensured as appropriate, including insulated gloves and shoes. • Sound-insulated control rooms will be provided with noise levels below 60 dB(A). 		
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		<ul style="list-style-type: none"> • Hazard warning lights will be installed inside electrical equipment enclosures to warn of inadvertent energization. • Voltage sensors will be used prior to and during workers' entrance into enclosures containing electrical components. • Deactivation and proper grounding of the live power equipment and distribution lines will be ensured according to applicable legislation and guidelines whenever possible before work is performed on or proximal to them. • Security should be deputed at potential accident sites to restrict entry and prevent near miss or fatal incidents. • Periodic retrainings will be held as necessary. 		
<p>Community Health, Safety and Security Management</p>	<p>Construction/Operation</p>	<ul style="list-style-type: none"> • Throughout the Project life span, the Project should comply its practices with the Voluntary Principles on Security and Human Rights. • A Security Management Plan will be established in compliance with the IFC standards in order to describe how security will be managed and delivered and what resources will be required. It will also consider the risks and impacts to communities posed by a company's security arrangements and include provisions and mitigation measures to address these. • A Community Health, Safety and Security Management Plan will be prepared. • The Project site will be surrounded by a fence and unauthorized access to the Project site will be prevented establishing a security zone and a security management system in place. • Due to security purposes, the foreign construction workers will be accommodated at the camp within the Project site which will be secured by the high security fences. As it will be stated in their contracts, the workers will only reside in the Project site for the security measures. • ENKA will have its own camp management procedures and will be responsible for providing secure conditions. Armed security personnel will be in place. • The security for the outside of the Project Site will be provided by the MoE. • Any activities outside the Project site will be appropriately signposted. • As the Project will employ range of people during the 	<p>IFC's Performance Standard 4 on Community Health, Safety, and Security, IFC's EHS Guidelines for Thermal Power Plants and IFC's General EHS Guidelines on Community Health and Safety will be applied.</p>	

		<p>construction phase. There is potential for the workforce to introduce and/or increase the rate of spread of communicable diseases in the Project area. This includes a new and/or a more virulent strain of an existing disease.</p> <ul style="list-style-type: none"> All workers will be trained on the transmission routes and common symptoms of communicable diseases to help reduce the potential for the workers to unknowingly transmit communicable diseases and help to increase knowledge within the local villages – e.g. through the training of the workers that have been sourced from the local villages. 		
Traffic Management	Construction/Operation	<ul style="list-style-type: none"> A Traffic Management Plan will be developed and implemented for the Project. Load and speed limits will be applied for transportation of heavy equipment. Safety and traffic signs will be properly placed near and around the Project site and on the road to the Project site. Drivers will be trained for complying with the traffic rules in order to minimize road traffic accident risk. Bridge conditions will be checked for transportation of ultra heavy equipment. The maximum length of the equipment that can be transported on the transportation route from the Umm-Qasr Port to the Project site, will be 30 m. The maximum width of the equipment that can be transported on the transportation route from the Umm-Qasr Port to the Project site, will be 7 m. Good traffic management will be done for wider equipment. The maximum height of the equipment that can be transported on the transportation route from the Umm-Qasr Port to the Project site, will be 6 m from the ground to avoid all obstacles. However, the low voltage powerlines must be lifted up by the isolator stick to prevent any contacts between equipment and distribution line. In case of transportation of taller equipment, the low voltage, medium voltage and high voltage powerlines on the specified route, will be shutdown, lift up or dismantled. Maintenance of the roads damaged due to the Project activities will be performed by the Project Subcontractor. Engagement activities will be held prior to construction to ensure that the local stakeholders are informed of the risks 	IFC's related performance standards and guideline documents will be applied.	

		<p>and consequences of entering the site.</p> <ul style="list-style-type: none"> An awareness raising campaign will be implemented for the local stakeholders in coordination with the local community groups and the Mukhtars and/or Sheikhs regarding the risks related to movement of heavy vehicles and increased traffic in the area. This campaign will be during the construction phase and will focus on local residents, children in schools and users of the local amenities. 		
Cultural Heritage Management	Construction	<ul style="list-style-type: none"> Although it is not expected; in case any cultural asset is discovered during the interventions (digging, splitting, explosion, test excavation etc.) to the ground through the construction phase within the borders of the Project site, compliance with the requirements of Law No. 55 of 2002 for the Antiquities and Heritage of Iraq will be ensured. A Chance Find Procedure will be developed for the Project in order to manage any encounters with cultural assets during the Project activities. 	IFC's Performance Standard 8 on Cultural Heritage will be applied.	
	Operation	N/A		

* : The most stringent ones among the national standards and IFC EHS guideline values are provided in the related tables in Part 2 below to be applied to the Project.

2. PROJECT STANDARDS

Table 2-1 Project Standards on Ambient Air Quality

Parameter	Averaging Period	Project Standards ($\mu\text{g}/\text{m}^3$)
NO ₂	1-year	10 (25 % of WHO ambient air quality guideline value)*
	1-hour	50 (25 % of WHO ambient air quality guideline value)*
SO ₂	24-hour	31.25 (25 % of WHO ambient air quality interim target 1 value)*
	10-minute	125 (25% of WHO ambient air quality guideline value)*
Particulate Matter (PM ₁₀)	1-year	20 (WHO ambient air quality guideline value)
	24-hour	50 (WHO ambient air quality guideline value)
Particulate Matter (PM _{2.5})	1-year	10 (WHO ambient air quality guideline value)
	24-hour	25 (WHO ambient air quality guideline value)
Total Suspended Particulates	24-hour	350 (the Iraqi national ambient air quality standard)
	1-hour	150 (the Iraqi national ambient air quality standard)
Settled Dust	30 days	10 ton/km ² for residential area 20 ton/km ² for industrial area (the Iraqi national ambient air quality standard)
Ozone	8-hour daily maximum	100 (WHO ambient air quality guideline value)
	1-hour	127 (the Iraqi national ambient air quality standard)
Carbonmonoxide	8-hour	12,300 (the Iraqi national ambient air quality standard)
	1-hour	43,200 (the Iraqi national ambient air quality standard)
Hydrocarbons	3-hour	160 (the Iraqi national ambient air quality standard)
Lead	24-hour	2 (the Iraqi national ambient air quality standard)
	3-month	1.5 (the Iraqi national ambient air quality standard)
	1-year	1 (the Iraqi national ambient air quality standard)
Benzene	1-year	3 (the Iraqi national ambient air quality standard)
Dioxin	1-year	60,000 (the Iraqi national ambient air quality standard)

* As a general rule, the IFC General EHS Guidelines on Environmental Air Emissions and Ambient Air Quality suggests 25 percent of the applicable air quality standards to allow additional, future sustainable development in the same airshed. (US EPA Prevention of Significant Deterioration Increments Limits applicable to non-degraded airsheds.)

Table 2-2 Project Standards on Air Pollutant Emissions

Parameter	Source of Emissions*		Project Standards (mg/Nm ³)
Visible Emissions	Combustion Sources		250 (the Iraqi national air pollutant emission standard)
Opacity	All Sources		20% (the Iraqi national air pollutant emission standard)
Carbon Monoxide (CO)	All Sources		500 (the Iraqi national air pollutant emission standard)
Nitrogen Oxides (NO _x)	Natural Gas (all turbine types of Unit > 50MWth)	NDA/DA*	51 (25 ppm) (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
	Fuels other than Natural Gas (Unit >> 50MWth)	NDA/DA*	152 (74 ppm) (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
Sulphur Dioxide (SO ₂)	Natural Gas (all turbine types of Unit > 50MWth)	NDA*	N/A
		DA*	N/A
	Fuels other than Natural Gas (Unit >> 50MWth)	NDA*	Use of 1% or less S fuel (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
		DA*	Use of 0.5 % or less S fuel (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
Particulate Matter (PM)	Natural Gas (all turbine types of Unit > 50 MWth)	NDA*	N/A
		DA*	N/A
	Fuels other than Natural Gas (Unit >> 50 MWth)	NDA*	50 (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
		DA*	30 (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal

Parameter	Source of Emissions*	Project Standards (mg/Nm ³)
		Power Plants)
Dry Gas, Excess O ₂ Content (%)	Natural Gas (all turbine types of Unit > 50 MWth)	15 % (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
	Fuels other than Natural Gas (Unit >> 50MWth)	15 % (the emission guideline value for combustion turbines as stipulated in IFC EHS Guidelines for Thermal Power Plants)
Total Suspended Particles (TSP)	Combustion Sources	250 (the Iraqi national air pollutant emission standard)
Benzene (C ₆ H ₆)	All Sources	5 (the Iraqi national air pollutant emission standard)
Lead and its Compounds (expressed as Lead) (Pb)	All Sources	5 (the Iraqi national air pollutant emission standard)
Arsenic and its Compounds (expressed as Arsenic) (As)	All Sources	1 (the Iraqi national air pollutant emission standard)
Cadmium and its Compounds (expressed as Cadmium) (Cd)	All Sources	1 (the Iraqi national air pollutant emission standard)
Mercury and its Compounds (expressed as Mercury) (Hg)	All Sources	0.5 (the Iraqi national air pollutant emission standard)
Chromium and its Compounds (expressed as Chromium) (Cr)	All Sources	5 (the Iraqi national air pollutant emission standard)
Vanadium (V)	All Sources	5 (the Iraqi national air pollutant emission standard)
Nickel and its Compounds (expressed as Nickel) (Ni)	All Sources	1 (the Iraqi national air pollutant emission standard)
Copper and its Compounds (expressed as Copper) (Cu)	All Sources	5 (the Iraqi national air pollutant emission standard)
Hydrogen Fluoride (HF)	All Sources	2 (the Iraqi national air pollutant emission standard)
Silicon Fluoride (SiF ₄)	All Sources	10 (the Iraqi national air pollutant emission standard)
Volatile Organic Compounds (VOC)	All Sources	20 (the Iraqi national air pollutant emission standard)
Dioxins and Furans	All Sources	1 ng TEQ ^{**} /m ³ (the Iraqi national air pollutant emission standard)

* : NDA: Non-degraded Airshed, DA: Degraded Airshed

** : Toxic Equivalent

Table 2-3 Project Standards on Noise Levels (IFC EHS Guidelines on Environmental Noise Management)

Project Standards		
Receptor	One Hour L_{Aeq} (dBA)	
	Daytime (07:00 – 22:00)	Nighttime (22:00 – 07:00)
Residential; institutional; educational	55	45
Industrial; commercial	70	70

Table 2-4 Project Standards on Drinking and Potable Water Quality

Parameters	Project Standards (mg/l)*
Color (TCU)	10 (Iraqi drinking water quality standard)
pH	6.5-8.5**
Turbidity (NTU)	< 0.2
Ecoli (Number per 100 ml)	0
Hardness (mg/l)	N/A**
Acrylamide (mg/l)	0.0005 ^a
Alachlor (mg/l)	0.02 ^a
Aldicarb (mg/l) [Applies to aldicarb sulfoxide and aldicarb sulfone]	0.01
Aldrin and dieldrin (mg/l) [For combined aldrin plus dieldrin]	0.00003
Aluminium (mg/l)	< 0.1 in large water treatment facilities < 0.2 in small facilities
Antimony (mg/l)	0.02
Arsenic (mg/l)	0.01 (A,T)
Atrazine and its chloro-s-triazine metabolites (mg/l)	0.1
Barium (mg/l)	0.7 (Iraqi drinking water quality standard)
Benzene (mg/l)	0.01 ^a
Benzo[a]pyrene (mg/l)	0.0007 ^a
Boron (mg/l)	2.4
Bromate (mg/l)	0.01 ^a (A,T)
Bromodichloromethane (mg/l)	0.06 ^a
Bromoform (mg/l)	0.1
Cadmium (mg/l)	0.003
Carbofuran (mg/l)	0.007
Carbon tetrachloride (mg/l)	0.004
Chlorate (mg/l)	0.7 (D)
Chlordane (mg/l)	0.0002
Chloride (mg/l)	250**
Chlorine (mg/l)	5 (C) (For effective disinfection, there should be a residual concentration of free chlorine of ≥ 0.5 mg/l after at least 30 min contact time at pH<8.0. A chlorine residual should be maintained throughout the distribution system. At the point of delivery, the minimum residual concentration of free chlorine should be 2 mg/l.)
Chlorite (mg/l)	0.7 (D)
Chloroform (mg/l)	0.3
Chlorotoluron (mg/l)	0.03
Chlorpyrifos (mg/l)	0.03
Chromium (mg/l) [For total chromium]	0.05 (P)
Copper (mg/l)	1.0 (Iraqi drinking water quality standard)

Cyanazine (mg/l)	0.0006
Cyanide (mg/l)	0.02 (Iraqi drinking water quality standard)
2,4-D ^b (mg/l) [Applies to free acid]	0.03
2,4-DB ^c (mg/l)	0.09
DDT ^d and metabolites (mg/l)	0.001
Dibromoacetonitrile (mg/l)	0.07
Dibromochloromethane (mg/l)	0.1
1,2-Dibromo-3-chloropropane (mg/l)	0.001 ^a
1,2-Dibromoethane (mg/l)	0.0004 ^a (P)
Dichloroacetate (mg/l)	0.05 ^a (D)
Dichloroacetonitrile (mg/l)	0.02 (P)
1,2-Dichlorobenzene (mg/l)	1 (C)
1,4-Dichlorobenzene (mg/l)	0.03 (C)
1,2-Dichloroethane (mg/l)	0.03a
1,2-Dichloroethene (mg/l)	0.05
Dichloromethane (mg/l)	0.02
1,2-Dichloropropane (mg/l)	0.04 (P)
1,2-Dihloropropene (mg/l)	0.02 ^a
Dichlorprop (mg/l)	0.01
Di(2-ethylhexyl)phthalate (mg/l)	0.008
Dimethoate (mg/l)	0.006
1,4-Dioxane (mg/l) [Derived using tolerable daily intake approach as well as linearized multistage modelling]	0.05 ^a
Edetic acid (mg/l) [Applies to the free acid]	0.6
Endrin (mg/l)	0.0006
Epichlorohydrin (mg/l)	0.0004 (P)
Ethylbenzene (mg/l)	0.3 (C)
Fenoprop (mg/l)	0.009
Fluoride (mg/l)	1.0 (Iraqi drinking water quality standard)
Hexachlorobutadiene (mg/l)	0.0006
Hydroxyatrazine (mg/l) [Atrazine metabolite]	0.2
Iron (mg/l)	0.3 (Iraqi drinking water quality standard)
Isoproturon (mg/l)	0.009
Lead (mg/l)	0.01 (A, T)
Lindane (mg/l)	0.002
Manganese (mg/l)	0.1 (Iraqi drinking water quality standard)
Mecoprop (mg/l)	0.01
Mercury (mg/l)	0.001 (Iraqi drinking water quality standard)
Methoxychlor (mg/l)	0.02
Metolachlor (mg/l)	0.01
Microcystin-LR (mg/l)	0.001 (P)

[For total microcystin-LR (free plus cell bound)]	
Molinate (mg/l)	0.006
Monochloramine (mg/l)	3
Monochloroacetate (mg/l)	0.02
Nickel (mg/l)	0.07
Nitrate (as NO ₃ ⁻) (mg/l) [Based on short-term effects, but protective for long-term effects]	50
Nitrioltriacetic acid (mg/l)	0.2
Nitrite (as NO ₂ ⁻) (mg/l) [Based on short-term effects, but protective for long-term effects]	3
N-Nitrosodimethylamine (mg/l)	0.0001
Pendimethalin (mg/l)	0.02
Pentachlorophenol (mg/l)	0.009 ^a (P)
Perchlorate (mg/l)	0.07
Selenium (mg/l)	0.01 (Iraqi drinking water quality standard)
Simazine (mg/l)	0.002
Sodium (mg/l)	200 (Iraqi drinking water quality standard)
Sodium dichloroisocyanurate (as sodium dichloroisocyanurate) (mg/l)	50
Sodium dichloroisocyanurate (as cyanuric acid) (mg/l)	40
Styrene (mg/l)	0.02 (C)
Sulfate(mg/l)	250 (Iraqi drinking water quality standard)
2,4,5-T ^e (mg/l)	0.009
TDS (mg/l)	1000 (Iraqi drinking water quality standard)
Terbutylazine (mg/l)	0.007
Tetrachloroethene (mg/l)	0.04
Toluene (mg/l)	0.7 (C)
Trichloroacetate (mg/l)	0.2
Trichloroethene (mg/l)	0.02 (P)
2,4,6-Trichlorophenol (mg/l)	0.2 ^a (C)
Trifuralin (mg/l)	0.02
Trihalomethanes (mg/l)	The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1
Uranium (mg/l) [Only chemical aspects of uranium addressed]	0.03 (P)
Vinyl chloride (mg/l)	0.0003 ^a
Xylenes (mg/l)	0.5 (C)
Zinc (mg/l)	3.0 (Iraqi drinking water quality standard)
* The standards are taken from WHO Guidelines for Drinking- Water Quality, Fourth Edition incorporating the First Addendum (2017) except the ones indicated as the Iraqi drinking water quality standards.	
**No health-based guideline values are proposed for these parameters in drinking water in WHO Guidelines for Drinking- Water Quality, Fourth Edition incorporating the First Addendum (2017). However, may affect acceptability of drinking-water.	
A , provisional guideline value because calculated guideline value is below the achievable quantification level;	

C, concentrations of the substance at or below the health-based guideline value may affect the appearance, taste or odor of the water, leading to consumer complaints;

D, provisional guideline value because effective disinfection may result in the guideline value being exceeded;

P, provisional guideline value because of uncertainties in the health database;

T, provisional guideline value because calculated guideline value is below the level that can be achieved through practical treatment methods, source protection, etc.

a, For substances that are considered to be carcinogenic, the guideline value is the concentration in drinking-water associated with an upper-bound excess lifetime cancer risk of 10^{-5} (one additional case of cancer per 100 000 of the population ingesting drinking-water containing the substance at the guideline value for 70 years). Concentrations associated with upper-bound estimated excess lifetime cancer risks of 10^{-4} and 10^{-6} can be calculated by multiplying and dividing, respectively, the guideline value by 10.

b, 2,4-Dichlorophenoxyacetic acid.

c, 2,4-Dichlorophenoxybutyric acid.

d, Dichlorodiphenyltrichlorethane.

e, 2,4,5-Trichlorophenoxyacetic acid.

Table 2-5 Project Standards for Treated Wastewater

Parameter	Project Standards
Temperature (°C)	< 35 (the Iraqi national standard for wastewater discharge to any water source)
Total Suspended Solids (mg/l)	50 (the Iraqi national standard for wastewater discharge to any water source and the guideline value specified in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges as well as in IFC's EHS Guidelines for Thermal Power Plants)
pH	6 – 9 (the guideline value specified in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges and IFC's EHS Guidelines for Thermal Power Plants)
BOD (mg/l)	30 (the guideline value specified in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges)
COD (Cr ₂ O ₇ method) (mg/l)	<100 (the Iraqi national standard for wastewater discharge to any water source)
Oil and Grease (mg/l)	10 (the guideline value specified in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges and IFC's EHS Guidelines for Thermal Power Plants)
Total Coliform Bacteria (MPN ^b /100 ml)	400 ^a
Cyanide (CN ⁻) (mg/l)	0.05 (the Iraqi national standard for wastewater discharge to any water source)
Fluoride (F ⁻) (mg/l)	5 (the Iraqi national standard for wastewater discharge to any water source)
Free Chlorine (Cl ₂) (mg/l)	Trace (the Iraqi national standard for wastewater discharge to any water source)
Chloride (Cl ⁻) (mg/l)	A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the chloride concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than 1000:1 the wastewater discharge must not exceed a chloride concentration of greater than 600mg/litre.

Parameter	Project Standards
	C. If the concentration of chloride in the source water is less than 200 mg/l then the permitted discharge limit must be established on a case by case basis. (the Iraqi national standard for wastewater discharge to any water source)
Phenol (mg/l)	0.01-0.05 (the Iraqi national standard for wastewater discharge to any water source)
Sulphate (SO ₂ ⁻⁴)(mg/l)	A - if the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the sulphate concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B - If the percentage of the amount of wastewater discharged to the amount of source water is more than 1000:1, the wastewater discharge must not exceed a sulphate concentration of greater than 400mg/l. C if the concentration of sulphate in the source water is less than 200mg/l then the permitted discharge limit must be established on a case by case basis. (the Iraqi national standard for wastewater discharge to any water source)
Nitrate (NO ₃ ⁻) (mg/l)	10 (the guideline value specified for <i>total nitrogen</i> in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges)
Phosphate (PO ₄ ⁻³) (mg/l)	2 (the guideline value specified for <i>total phosphorous</i> in IFC's General EHS Guidelines on Environmental Wastewater and Ambient Water Quality for treated sanitary sewage discharges)
DDT (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Lead (Pb) (mg/l)	0.1 (the Iraqi national standard for wastewater discharge to any water source)
Arsenic (As) (mg/l)	0.05 (the Iraqi national standard for wastewater discharge to any water source)
Copper (Cu) (mg/l)	0.2 (the Iraqi national standard for wastewater discharge to any water source)
Nickel (mg/l)	0.2 (the Iraqi national standard for wastewater discharge to any water source)
Selenium (mg/l)	0.05 (the Iraqi national standard for wastewater discharge to any water source)

Parameter	Project Standards
Mercury (Hg) (mg/l)	0.005 (the Iraqi national standard for wastewater discharge to any water source)
Cadmium (Cd) (mg/l)	0.01 (the Iraqi national standard for wastewater discharge to any water source)
Zinc (Zn) (mg/l)	1.0 (the guideline value specified in IFC's EHS Guidelines for Thermal Power Plants)
Chromium (Cr) (mg/l)	0.1 (the Iraqi national standard for wastewater discharge to any water source)
Aluminium (mg/l)	5.0 (the Iraqi national standard for wastewater discharge to any water source)
Barium (mg/l)	4.0 (the Iraqi national standard for wastewater discharge to any water source)
Boron (mg/l)	1.0 (the Iraqi national standard for wastewater discharge to any water source)
Cobalt (mg/l)	0.5 (the Iraqi national standard for wastewater discharge to any water source)
Iron (Fe) (mg/l)	1.0 (the guideline value specified in IFC's EHS Guidelines for Thermal Power Plants)
Manganese (mg/l)	0.5 (the Iraqi national standard for wastewater discharge to any water source)
Silver (mg/l)	0.05 (the Iraqi national standard for wastewater discharge to any water source)
Total Hydrocarbons and its Compounds (mg/l)	<p>Discharge of total hydrocarbons to water sources according to the concentrations and limitations below are allowed; the concentration of hydrocarbons must be measured discharging to the water source.</p> <p>For a river in continuous flow 10 mg/l according to the ratio of the amount of wastewater discharged to the amount of the water source should not be less than 1000:1.</p> <p>For a river in continuous flow 5 mg/l and in accordance the ratio of the amount of wastewater discharged to the amount of the water source should be 500:1 or less.</p> <p>For a river in a continuous flow 3 mg/l and in accordance with the ratio of the amount of wastewater discharged to the amount of the water source should be 300:1 or less</p> <p>(the Iraqi national standard for wastewater discharge to any water source)</p>
Sulfide S ⁻² (mg/l)	0 (the Iraqi national standard for wastewater

Parameter	Project Standards
	discharge to any water source)
Ammonia (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Ammonia gas (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Sulphur Dioxide (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Petroleum Alcohol (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Calcium Carbonate (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Organic Solvent (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Benzene (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Chlorobenzene (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
TNT (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)
Bromine (Br ₂) (mg/l)	0 (the Iraqi national standard for wastewater discharge to any water source)

Notes:

a Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.

b MPN = Most Probable Number

Table 2-6 Project Standards on Soil Quality

Parameter	Project Standards (Limit for Transportation to Groundwater used for Drinking Purposes) (mg/kg)
Antimony	20
Arsenic	12
Copper	63
Barium	750
Mercury	2
Zinc	6.6
Cadmium	200
Chromium	1.4
Lead	64
Molybdenum	70
Selenium	1
Uranium	23