

Final Terms of Reference for CoE regarding environmental issues

Heading	Environmental Issues
Serial Number	EC – 1A
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	A) CoE will review the information of PIU on the process selection and construction of waste water treatment plants (WWTP). B) CoE will regularly check on the work progress made in constructing the WWTPs and whether the project is in compliance with the time schedule provided by PIU.
Source	
Commencement	As soon as information has been made available by PIU/DSI
Milestones	Report on completed construction at latest 1 month after completion and at least 11 month before start of impoundment
Completion	A) Before final commitment B) Before impoundment starts
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Comment on the information on construction of WWTP. Yearly reports to ECAs on work progress.
Release on Website	Info on WWTP: Yes

Heading	Environmental Issues
Serial Number	EC – 1B
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	a) CoE will regularly review the performance data of WWTP obtained from the municipalities through PIU via their members on the CoE. b) When WWTP operators deem their WWTP to be operational and fully functional, CoE will check performance of plants (effluent quality) and will signal to ECAs and PIU if compliance with required effluent values has been achieved.
Source	
Commencement	After start of operation of WWTP
Milestones	
Completion	a) Annual review b) Confirmation of performance status: within 10 days of receipt of data
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Comment on the information on construction of WWTP. Yearly reports to ECAs on work progress. Reports on WWTP performance; quarterly during startup, semi-annually during operation.

Release on Website	Info on WWTP: Yes
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Heading	Environmental Issues
Serial Number	EC - 2
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	<p>CoE will review the rough estimates and the results of modelling of water quality in the reservoir submitted by PIU at different stages of the development of the model (calibration, verification, and prediction).</p> <p>If modelling of future water quality and stratification of the reservoir shows that water quality is not acceptable even with the 3 WWTP planned, the CoE will assist PIU in developing appropriate mitigation measures.</p> <p>CoE will regularly check on the progress of implementation of measures.</p>
Source	
Commencement	Asap (as soon as results are available)
Milestones	None foreseen
Completion	<p>Review of rough estimates: Within 2 days and before final commitment</p> <p>Review of results and development of water quality model: immediate feedback to PIU upon (oral) presentation of results/model</p> <p>Check on implementation progress: during implementation measures or 2 years after evidence.</p>
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Feedback on results of study quarterly report on the implementation of measures.
Release on Website	results of modelling of water quality and measures: Yes

Heading	Environmental Issues
Serial Number	EC - 3
Responsibility	CoE
Cooperation with other Institutions	EUAS/Plant Operator
Item	Water quality
Task	<p>In case of negative, trophic situation in the reservoir after commissioning, the CoE will assist PIU in developing appropriate mitigation measures.</p> <p>CoE will regularly check on the progress of implementation of measures and whether the project is in compliance with the implementation schedule provided by PIU.</p>
Source	
Commencement	Immediately after evidence.

Milestones	None foreseen
Completion	End of repayment period.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report on occurrence of negative, trophic situation in reservoir immediately after evidence. quarterly report on the implementation of measures.
Release on Website	Mitigation measures: Yes

Heading	Environmental Issues
Serial Number	EC - 4
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	CoE will review reports from PIU on irrigation in catchment area of the Ilisu Project and immediately inform ECAs in case of extension of irrigation area.
Source	
Commencement	By 2. Quarter 2007
Milestones	None foreseen
Completion	Yearly reporting until the end of repayment period of project.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Inform ECAs on expansion of irrigation in project area.
Release on Website	No

Heading	Environmental Issues
Serial Number	EC - 5
Responsibility	CoE
Cooperation with other Institutions	GAP Administration
Item	Water quality
Task	CoE will assist PIU/GAP in developing Best Management Practice (BMP) for agriculture, in case of increased irrigation in project area. CoE will regularly check on the progress of implementation of measures and whether the project is in compliance with the implementation schedule provided by PIU.
Source	
Commencement	Immediately after evidence of increased irrigation area.
Milestones	None foreseen
Completion	Increase becomes known before impoundment: BMP in place before start of impoundment Increase becomes known after impoundment within 2 years after evidence.
Budget	PIU

(Volume/Sponsor)	
Interaction with ECAs	quarterly report on work progress and implementation of measures.
Release on Website	Report on BMP: Yes

Heading	Environmental Issues
Serial Number	EC - 6
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	The CoE will assist PIU in developing measures to prevent that leachate from waste dumps enter Tigris, its tributaries or the reservoir.
Source	
Commencement	When inventory is completed
Milestones	Plan of measures: 3 years before start of impoundment
Completion	Implementation of measures: 2 years before reservoir impounding starts.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	quarterly report on work progress and implementation of measures.
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC - 7
Responsibility	CoE
Cooperation with other Institutions	
Item	Water quality
Task	CoE will regularly check on the work progress made in implementing the mitigation measures under Item 6, the rehabilitation of Siirt dump site and whether the project is in compliance with the time schedule provided by PIU.
Source	
Commencement	asap
Milestones	none foreseen
Completion	3 months after provision of documents by PIU
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	quarterly report on work progress and implementation of measures.
Release on	No

Website	
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Heading	Environmental Issues
Serial Number	EC – 8
Responsibility	CoE
Cooperation with other Institutions	
Item	Minimal water flow
Task	CoE will regularly check the monitoring results of water flow.
Source	
Commencement	Start of impoundment
Milestones	None foreseen
Completion	End of repayment period.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	quarterly reports on water flow to ECAs.
Release on Website	monthly minimum and maximum

Heading	Environmental Issues
Serial Number	EC – 9
Responsibility	CoE
Cooperation with other Institutions	
Item	Minimal water flow
Task	The CoE will assist PIU in developing measures that are necessary to keep the time of zero flow during impoundment to a minimum, but not more than 3 days. CoE will check regularly on the work progress and implementation of measures.
Source	
Commencement	asap
Milestones	None foreseen
Completion	End of impoundment
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	CoE will inform ECAs on necessary measures and will quarterly report on work progress and implementation of measures.
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 10
Responsibility	CoE
Cooperation with other Institutions	
Item	Minimal water flow

Task	CoE will comment on PIU's explanation or expert's opinion that (a) the minimal flow of 60 m ³ /s over a longer period and (b) the phase of zero discharge during impoundment do not have severe downstream impacts on ecosystems and riparians.
Source	
Commencement	asap
Milestones	None foreseen
Completion	before final commitment
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 11
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will review PIU's inventory of threatened and key species and comment on the results (including information on distribution in and around reservoir area, importance for local or global population, habitat conditions, portion of the habitat lost due to Ilisu dam and survival of local population).
Source	
Commencement	After completion of study
Milestones	None foreseen
Completion	Review and comment to ECAs 1 month after completion of study.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs.
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 12
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will assist PIU in developing adequate mitigation measures (such as relocation, creation of new habitats, nesting and spawning areas etc.) based on conclusions of the inventory of threatened and key species.
Source	
Commencement	After inventory

Milestones	
Completion	Development of mitigation measures 4 years before impoundment starts.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	CoE will inform ECAs on measures and will quarterly report on work progress and implementation of measures.
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 13
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will regularly check on the work progress of measures under EC – 12 (above) and whether the project is in compliance with the time schedule provided by PIU.
Source	
Commencement	After inventory
Milestones	None foreseen
Completion	Completion of implementation
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Quarterly reports on work progress and implementation of measures.
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 14
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will review and comment on time schedule and budget plan for the survey on fish species.
Source	
Commencement	Asap
Milestones	None foreseen
Completion	Before final commitment.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 15
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will review and comment on PIU's study (REF: E-16) on Tigris fish species and soft shell turtle dealing with current situation (baseline), prediction of impacts, developments in aquatic ecosystem and fish/turtle population and necessary mitigation measures.
Source	
Commencement	After completion of study
Milestones	None foreseen
Completion	Review of/ comments on parts of the study dealing with current situation, first prediction of impacts and necessary mitigation measures: 3 months after completion of study. Rest: 5 years after impoundment, yearly 2 months after reports by DSI
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs.
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC - 16
Responsibility	CoE
Cooperation with other Institutions	
Item	Flora and Fauna
Task	The CoE will assist PIU in identifying appropriate sites and measures for relocation of plants and animals and for creating new habitats and with the implementation of such measures.
Source	
Commencement	Asap
Milestones	None foreseen
Completion	Identification of sites: 3 years before start of impoundment Measures: 1 year before start of impoundment
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 17
Responsibility	CoE

Cooperation with other Institutions	
Item	Flora and Fauna
Task	CoE will regularly check on the work progress made in acquisition of such sites and implementation of protection measures and whether the project is in compliance with the time schedule provided by PIU.
Source	
Commencement	3 years before start of impoundment
Milestones	None foreseen
Completion	Upon completion of implementation of measures, at latest 1 year before start of impoundment.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 18
Responsibility	CoE
Cooperation with other Institutions	
Item	Health issues
Task	CoE will assist PIU in defining the measures and actions necessary for assessing the relation of malaria and other waterborne diseases in the project area.
Source	
Commencement	asap
Milestones	None foreseen
Completion	before start of main dam construction works.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	None foreseen
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 19
Responsibility	CoE
Cooperation with other Institutions	
Item	Health issues
Task	CoE will assist PIU developing measures (prevention, education, health service etc.) to prevent an increase of water borne diseases and HIV/AIDS in the project area.
Source	
Commencement	Asap

Milestones	None foreseen
Completion	before start of main dam construction works
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	None foreseen
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 20
Responsibility	CoE
Cooperation with other Institutions	
Item	Health issues
Task	CoE will regularly check on the work progress of the Prevention Programme for Malaria and HIV/AIDS.
Source	
Commencement	Start of Prevention Programme
Milestones	None foreseen
Completion	End of repayment period
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs semi-annually.
Release on Website	No

Heading	Environmental Issues
Serial Number	E – 21
Responsibility	CoE
Cooperation with other Institutions	
Item	Safety
Task	CoE will review and comment on the updated Final Design Studies and the Dam Safety Concept including emergency and evacuation plans and report to ECAs.
Source	
Commencement	Asap (as soon as plans are available)
Milestones	None foreseen
Completion	At latest 1 year before start of impoundment
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	CoE will report results of review to ECAs
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 22
Responsibility	CoE
Cooperation with other Institutions	
Item	Safety
Task	CoE will review and comment on the topographical study on Tepe and will assist in identification of actions and protection measures to be implemented.
Source	
Commencement	After completion of study
Milestones	None foreseen
Completion	Review and comments: 1 month after completion of study Identification/implementation of measures: at latest 2 years before impoundment starts.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	report to ECAs
Release on Website	No

Heading	Environmental Issues
Serial Number	EC – 23
Responsibility	CoE
Cooperation with other Institutions	
Item	EMP/EAP
Task	CoE will assist PIU in preparing an acceptable EMP/EAP (Sub-EMP) covering the construction and the operational phase. This includes identifying the impacts of the project, necessary actions and mitigation measures to be taken, time schedule for measures and the entities responsible for their implementation as well as the required budgets. All mitigation measures listed in the UEIAR and in these TORs will be included in the EMP/EAP.
Source	
Commencement	asap
Milestones	None foreseen
Completion	A) Framework EMP: before final commitment B) Sub-EMPs review 1 month after Sub-EMP has been provided by PIU C) Rest: to be updated when results of studies and measures are available.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 24
Responsibility	CoE
Cooperation with other Institutions	
Item	EMP/EAP
Task	CoE will decide on the necessity of EMP updates (except where completion of pending studies require updates in any case) and review any updates of the EMP and/or substantial changes in the EMP.
Source	
Commencement	After completion of initial EMP/EAP
Milestones	None foreseen
Completion	End of repayment period
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs within 3 months.
Release on Website	Yes

Heading	Environmental Issues
Serial Number	EC – 25
Responsibility	CoE
Cooperation with other Institutions	
Item	Monitoring
Task	CoE will check the monitoring reports of PIU on: <ul style="list-style-type: none"> ▪ water quality in Tigris and its tributaries and in the reservoir ▪ water flow ▪ time of zero discharge during impoundment ▪ fauna/eg. bird species after commissioning ▪ aquatic ecosystem and the fish population after commissioning ▪ development of relocated flora and fauna species in their new habitats ▪ malaria and other water borne diseases in the project area
Source	
Commencement	With submission of monitoring reports
Milestones	None foreseen
Completion	End of repayment period
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Report to ECAs
Release on	No

Website	
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Heading	Environmental Issues
Serial Number	EC – 26
Responsibility	CoE
Cooperation with other Institutions	
Item	EMP/EAP
Task	CoE will regularly check on the implement/work progress of the Ilisu project and whether the project is in compliance with the EMP/EAP (Sub-EMPs) and the time schedules given in the EMP/EAP.
Source	
Commencement	Immediately after EMP/EAP (Sub-EMP) have been provided by PIU
Milestones	None foreseen
Completion	End of repayment period.
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Quarterly reports to ECAs during construction and resettling phase. Annually during rest of operation
Release on Website	No

Heading	Environmental Issues
Serial Number	EC - 27
Responsibility	CoE
Cooperation with other Institutions	
Item	Reporting
Task	CoE will provide reports to the ECAs on work progress and implementation of mitigation measures, monitoring results (e.g. Water quality, water flow etc.), compliance with time schedules and EMP/EAP and any deviation or incompliance. Information on the different issues will be comprised in one quarterly report during construction and resettlement phase and an annual report during operation.
Source	
Commencement	Asap (immediately after FAM)
Milestones	Reports
Completion	End of repayment period
Budget (Volume/Sponsor)	PIU
Interaction with ECAs	Provide reports to ECAs
Release on Website	No

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