

Ankara Istanbul High Speed Train Project  
(AIHSTP)  
Republic of Turkey

**ENVIRONMENTAL IMPACT ASSESSMENT  
NON-TECHNICAL SUMMARY**



**Project Coordination and Implementation Unit (PCIU)**

**August 2011**

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### 1. The Project

The Joint Venture - Euroestudios (Spain), KOCKS Consult (Germany), and TUMAS (Turkey), has been awarded by the General Directorate of State Railways (TCDD) with consultancy services for the Project Coordination and Implementation Unit (PCIU) of the Ankara-Istanbul High-Speed Train Project (AIHSTP). Part of the services covers the environmental monitoring which follows the following objectives:

- Assistance in assessing and monitoring the contractor's environmental management system for natural, built and community environment;
- Assistance in assessing and monitoring the contractor's environmental plans in such areas as spoil transportation and disposal, traffic control, dust and noise mitigation, contaminated material disposal etc;
- Assistance in ensuring that the Project is implemented in a manner that complies with the environmental requirements imposed by regulations or required under the contracts;
- Assistance in liaison between the TCDD, relevant authorities and contractors.

The route of the Ankara-Istanbul High Speed Train Project (AIHSTP) is shown in Figure 1. As shown in this Figure the AIHSTP is divided into seven sections. In the first stage of the AIHSTP, the section between Esenkent (near Ankara) and Eskisehir has been completed and started operation in March 2009. Additionally, the project includes the arrangements of a new Ankara Terminal Building for high speed operation. A Build-Operate-Transfer (BOT) type of construction contract is intended for this part of the project.

The second stage comprises two sections: İnönü-Vezirhan and Vezirhan-Köseköy. The project for the construction works was awarded to "CRCC, CMC, CENGİZ and IC ICTAS Consortium" in 2008 and construction activities started in January 2009. From Köseköy to Gebze another section of the AIHSTP project was parcelled out and which is to be administered and contracted out by CFCU under IPA financing. From the end point at Gebze, the MARMARAY project begins, where it will proceed up to Haydarpaşa at Anatolian side of Istanbul and will continue to the European side by passing through the Bosphorus Tunnel Crossing.



Figure 1: Map of the AIHSTP

## 2. Analysis of Alternatives

### 2.1 On the Main Project

The 2006 EIA also presented an evaluation of the route development process, assessment of alternative routes and geological, geotechnical and seismic studies which had been prepared both by YUKSEL PROJE and ALARKO/OHL/G&O Joint Venture. As much as possible, to minimize environmental and social impacts, the existing railway route had been followed. However, as basic requirement to high-speed travel, deviations from the existing route in some areas were necessary.

For the Sincan-Esenkent Section two route alternatives were considered: (i) Alternative 1 would traverse Torbapak Coal Packaging facility, intersect existing railway line necessitating subway crossings and 2 tunnels, pass through a garbage collection zone and require a bridge junction at Sincan junction; (ii) Alternative 2 had longer stretch than Alternative 1, would cross Torbapak Coal Packaging facility, require subway crossing and bridges to cross Ankara River, need a long bridge and a viaduct. After due consideration on construction cost, duration, feasibility parameters, maintenance and operations, Alternative 2 was selected.

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For the Esenkent-Eskishehir and Eskishehir-Bozüyük sections, single schemes were conceptualized without need for alternative routes. For the Eskishehir-Köseköy route, the Bozüyük-Mekece sections had two alternatives: (i) Alternative 1 (or Karasu Valley Alternative) would traverse the Karasu Valley; (ii) Alternative 2 would entail connecting lines of Bilecik Station and Karakoy Station resulting in a steep longitudinal slope of 22%, exceeding the maximum required slope of 16%. Since this is not permissible for high speed transport, Alternative 1 was selected.

For the Mekece-Köseköy Section, two alternatives were conceptualized: (i) Referred to as Alternative 3, would be 33 km shorter than the original line, entail construction of 23 km long tunnel and to conform to UID and EU criteria would have to be double tunnels, should have emergency escape stations, and with ventilation system; (ii) Referred to as Alternative 4 would be 7.5 km longer than original line, with non-conforming track horizontal radius for high-speed travel at Arifeye Station, too close to the Sapanca Lake and would be encountering further geometric difficulties with the existing highway. With all these issues, a redesign was done resulting in the Dogancay Realignment as described above.

### 2.2 On the Realignment

The proposed realignments were based on geometrical requirements for high-speed transport as well as geotechnical characteristics along the corridor. Hence, the optimum alternatives were selected along the route as much as possible.

Sorting out of additional alternatives occurred at Km 188 where two possible routes were considered. Alternative 1 would start at km 188 to Bilecik Station at Km 206 and to be situated 1 km away from Tunnel-20 landslide regions. It would have additional 2,271m tunnel and 1,388m viaduct but would not require displacing the existing railway and would not interfere with Bozüyük-Mekece Highway at km 202. The previously planned Vezirhan station would be eliminated by this alternative since the adjacent Bilecik Station would only be 12 km away.

Alternative 2 also would start at km 188 and ends Bilecik Station. It would be also 1 km away from the Tunnel-20 landslide and included an additional 2,971m tunnel and 1,068m viaduct. It would cross both the railway and the highway resulting in 500m displacement of the existing railway line and a cut-and-cover tunnel under the highway. After due analysis, it was judged that Alternative Realignment 1 was more acceptable.

### 3. Reasons for Introducing Route Realignment

In the process of reviewing the design, a number of factors led to decisions of introducing realignment of the AIHSTP railway track. Extensive discussions between the design consultants and TCCD were done as these realignments have major implications on the cost of the project. Nevertheless, it became necessary to introduce the realignments to achieve the project objectives. The four (4) major route realignments introduced are as follows:

1. The **Dogancay Realignment** is located at km 121+400 to km 145+00, starting from Sapanca City center until Ali Fuatpasa. This realignment was necessary to enable a wider radius or around 3,500 meter suitable for high-speed transport. The current tract can provide only 400m of radius, wherein high-speed travel will not be possible. By introducing the realignment, high-speed travel of around 250kph for the train can be maintained. The realigned track will likewise be passing through hilly areas zones and lesser settlements compared to the previous alignment. Hence, the socio-environmental impacts in the immediate vicinity will be decreased. Also, the adjacent proposed viaduct affected by the new realignment will decrease in height from 45m to 10m making it less vulnerable to earthquake issues.
2. The **Vezihan Realignment** starts from km 188+00 and ends at km 206+600. This affects the Vezihan Station at km 194 and ends at Bilecik Station entrance at km 206. During the construction during the construction of the Bozüyük-Mekece Road a landslide occurred resulting in cracks at the portal of Tunnel 20. This raised concerns on the stability of the segment; henceforth making the realignment inevitable. In addition, to maintain the operation of the existing conventional line, the previous alignment necessitated construction of a temporary track displacement and diversions at Karasu River, which will result in more affected infrastructure and consequently delay in implementation. Also the previous alignment intersects a newly built highway necessitating a cut and cover tunnel and a viaduct which will disrupt the on-going traffic along the new highway. To avoid all of these aforementioned issues, the realignment became necessary.
3. The **DT-26 Realignment** was proposed due to the instability of the area and to prevent and avoid landslide issues. This required a displacement of the original track to around 250 eastward. The realignment provided a safe distance from landslide areas to the

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Tunnel 26 portal and Viaduct 25. As a result, Tunnel 25 was no longer necessary and was removed in the design.

4. The **Bozüyük Realignment** avoids the Bozüyük City center, minimizes disruption of the city's infrastructure lines, and the physical division of the city into two by the high-speed rail. The starting point of the realignment starts at km 231+631 up to km 248+281, just before Inonu Station. The realignment requires construction of 2 tunnels, a viaduct and 3 bridges. The location of the Bozüyük Station in this realignment is established at km 238+030 to km 238+830. This was in response to the concerns of the people expressed during the PCD held on 09.12.2005 at 14:00 at Bozüyük Municipality Wedding Hall.

A location map of the aforementioned realignments is shown in the map below.

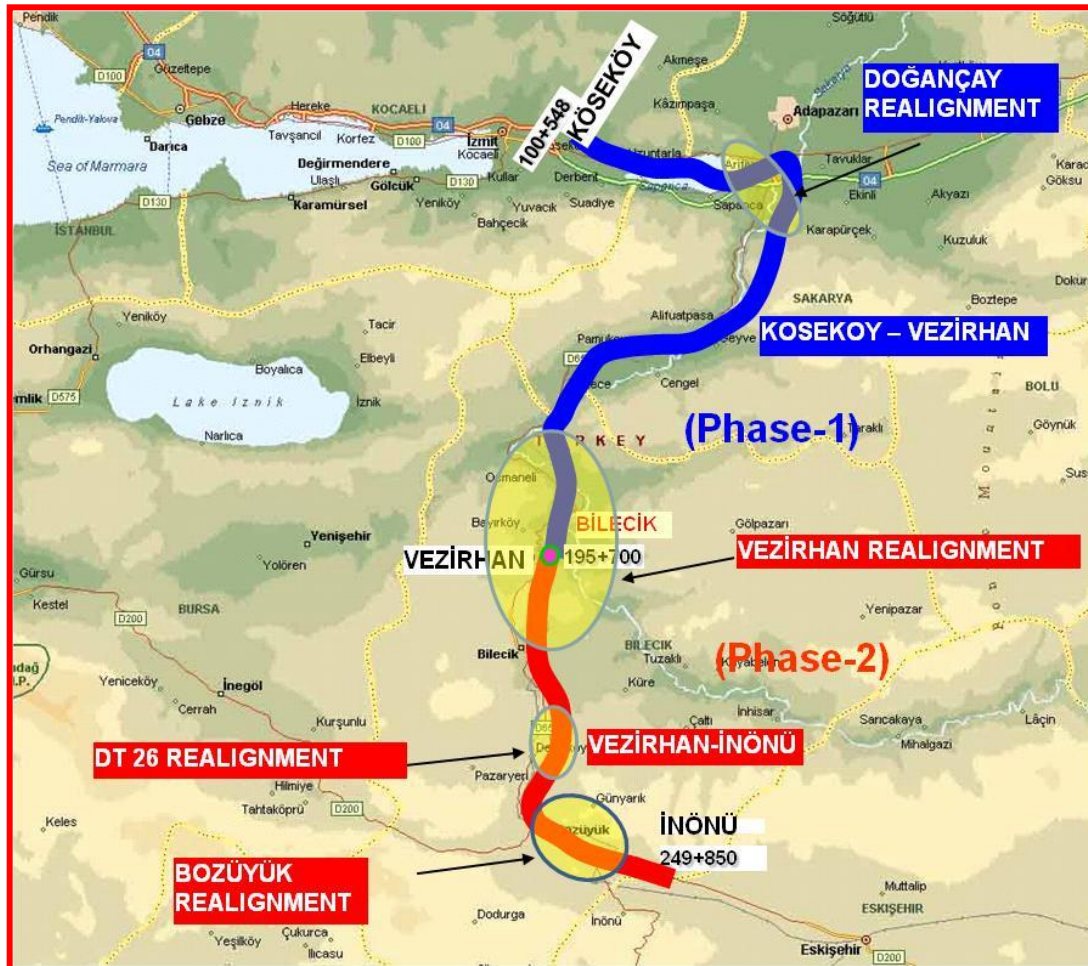


Figure 2: Map of the Realignments in AIHSTP



#### 4. Compliance with Applicable Environmental Legislation

##### 4.1 Project Legal Basis - The 2006 EIA

In 1993, the AIHSTP was conceptualized and determined as necessary project by the Government of Turkey. Consequently, the following year the AIHSTP was included in the 1994 investment package as part of the railway modernization project between Ankara and Istanbul. Because of the year the project was formulated for investment, it was deemed exempted from the Turkish EIA Procedure as stated in correspondence of Ministry of Environment and Forestry dated 30.12.2003. Nevertheless, since the Government of Turkey requested a loan from the European Investment Bank (EIB), the Bank required that an EIA be processed for the project and such document be submitted to the Bank. Hence, an EIA was prepared as per the European Investment Bank (EIB) and Turkish legislation adopting the guiding criteria of international organizations such as European Union (EU), World Health Organization (WHO) and World Bank as well for the purpose of the loan.

##### 4.2 EU Regulations and International Standards

The preparation of the EIA conformed with EIB's Environmental and Social Practices Handbook (2010) criteria for Category B project wherein "Local and short-term negative environmental and associated social impacts and for which effective mitigation measures are readily available – Low to moderate risk"<sup>1</sup>. Initially, the main objective of the environmental and social screening of the project is to identify the extent and the complexity of potential environmental and social impacts and risks of the project. The AIHSTP falls under 7(a) of Annex 1 of the EIA Directive 85/337/EEC, amended by Directives 97/11/EC and 2003/35/EC, which is the "Construction of lines for long-distance railway traffic". Thus, according to such categorization, an EIA was required for the AIHSTP.

The EIA study scope covered the following sections: (i) Sincan-Esenkent; (ii) Esenkent-Eskisehir; (iii) Eskisehir-Köseköy; and (iv) Köseköy-Gebze. The EIA preparation generally took into consideration the current environmental structure of the region, various habitats and historical and cultural assets on the route and the impacts of the Project on the existing soil and water quality and socio-economic characteristics. Based on these, an Environmental Management

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<sup>1</sup> Initial EIB Project Categorization based on EIB's Environmental and Social Practices Handbook (2010)

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Plan (EMP) was prepared which consisted of the mitigation measures corresponding to the Project-based potential impacts, and with the monitoring plans during the construction phase.

The AIHSTP was judged to be an environmental-friendly project, primarily because it aimed at decreasing the traffic load on highways, and thus, minimizing the pollutant emissions to atmosphere and accident risks. The PCD studies likewise yielded no opposition to the Project. Certain concerns were expressed regarding expropriation works. However, such process would be carried out on the basis of sample prices and through mutual negotiations with the landowners to avoid negative social impact. Consequently, the findings of the EIA indicated that the AIHSTP would not generate any significant negative impacts beyond the limits accepted worldwide.

For the preparation of the EIA and later in the actual implementation and operation; the TCDD should comply with both the relevant directives of the European Union (EU) and guidelines of the EIB consisting of the following:

- Environmental Impact Assessment Directive (85/337 EEC as amended by the Directive 97/11/EC);
- Air Quality Framework Directive (96/62/EC);
- Water Framework Directive (2000/60/EC);
- EU Waste Management Legislation;
- Directive on Environmental Noise (2002/49/EC).

As part of the requirement of the funder; the monitoring framework made reference to the EIB's Statement of Environmental and Social Principles and Standards; which was formulated to further develop the environmental and social requirements of the Bank. The Statement also made direct reference to EU environmental law as the primary source of its environmental principles. In addition; the EIB also was a signatory to the European Principles for the Environment (EPE) which likewise rendered this treaty an important document upon which; the environmental management and monitoring activities were predicated on. To complement the Statement; a number of documents were also being referred to in the monitoring framework such as those pertaining to EIB environmental strategy and policy as well as the EIB Environmental and Social Practices Handbook (the "Handbook"); which elaborated the commitment of the Bank in the environmental and social fields. The Handbook served as a general guideline in achieving the environmental requirements of the project and prevents environmental problems from occurring.

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Also for internationally funded projects; the well known criteria and standards of environmental assessment such as those reported in the “World Bank Pollution Prevention and Abatement Handbook; 1998” were utilized. In addition; the relevant limit values and guidelines determined by such international agencies as the World Health Organization (WHO) were also taken in account.

Hence; for the AIHSTP; environmental monitoring and management had been grounded on the aforementioned bases and took cognizance of prevailing Turkish legislation and EU’s environmental laws.

#### **4.3 Turkish Legislation**

Parallel to international requirements as stated in the EIA, the project proponent (TCDD) should comply with a number of Turkish legislations predicated on the Turkish Environmental Law (No.2872) in the implementation of the project. A list of these Turkish legislations is shown in Part 12 of this report.

### **5. Environmental Impact and Mitigation**

#### **5.1 EIA for the Main Project**

Potential impacts to the environment were presented in the EIA documents for the project in both construction and operations of the AIHSTP. A number of important ecological and environmental components which would be affected along the vicinity of the rail corridor are presented in the ensuing discussions.

##### **5.1.1 On Settlements and Agricultural Lands**

Impacts: The Esenkent and Eskisehir section railway route traverses settlement areas and tracts of agricultural lands primarily used for growing wheat, barley, and rye. Between Eskisehir and Köseköy the agricultural lands are devoted to growing nut, barley, sunflower, and corn along with fruit and vegetable. The primary impact of the railway route in agricultural lands is the introduction of separation to such land and reduction of arable fields for crops. During construction dust and noise will be generated and can affect the health of people near settlements.

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Mitigations: To minimize impacts the construction activities would be carried out within the expropriated land. Similarly, the construction vehicles would be restricted to usage only of designated access roads and will not enter into arable land. If construction would be done close to agricultural area, fences would be installed around the construction site in order to protect vegetation. To deal with dust, particulate matter measurements will be conducted on periodic basis and the pertinent ground-level dust standards would be complied with by the contractors. Should the dust level become too much, water will be sprayed to suppress dust. To enable certain connectivity separated by the railroad, access will be provided by underground passages constructed every 1.5 to 2 kilometres. In the areas where agricultural activities are continuous, the distance between underground passages would be reduced to 500 meters.

#### 5.1.2 On Forests

Impacts: Due to destruction of forests areas along the Gebze-Bozüyük section, the area had been predominated by bushes and coppice forests. Along the Bozüyük-Sincan traverses steppe forests still exist as part of the Central Anatolian region characterized by low trees and bushes with steppe elements. It was anticipated that a limited number of trees would be cut and movement of the wild life (especially the mammals) would be hampered. Noise generated would disturb wild life in the area.

Mitigations: Similar mitigation measures for the agricultural areas would be also be applicable to the forest areas, thus, movement of construction equipment would be restricted to access roads to avoid disturbing the wild life in the area. The noise reduction measures should be implemented so as not to create significant impacts on the wild life. During the operational phase of the proposed railway, it is important to restore the ecosystem into its original state. To provide crossing access to animals to either side of the railway, underground passages would be constructed at every 1.5 to 2 kilometres. A security fence would be constructed to prevent humans and animals from crossing the railway.

#### 5.1.3 On Water Resources

Impacts: The largest and the most important water resource along the route is the Sakarya River, which provides irrigation water to arable lands; however, the aquatic vegetation along the river was found to be rather poor. The potential impacts on water resources during construction

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consist of oil/fuel leakages due to construction activities; silt contamination activities; and contamination from wastewater discharges.

Mitigations: The appropriate mitigation measures consist of the following: (i) The Contractor will prepare a detailed plan for all water crossings; (ii) vehicle wash facilities would be constructed using re-circulatory system with no overflow and the effluent contained for treatment; (iii) proper planning of construction activities to minimize siltation; (iv) banks along Sakarya River and other river crossings would be restored to their original state; (v) silt curtains will be used, where necessary, to control silt contaminations; (vi) direct access of vehicles to watercourses will be minimized; (vii) remedial action will be taken to prevent contamination from oil/fuel leakages; (viii) fueling/washing/maintenance of machineries and storage of hazardous chemicals, fuels or lubricating oils would not be constructed close to watercourses.

#### 5.1.4 On Air Quality

Impacts: During construction activities, dust in the air could occur due to earth moving activities and fugitive emissions would be due to operations of trucks and equipment.

Mitigations: The mitigation measures would include: (i) haul trucks will be covered to prevent the dispersion of the particulate matter; (ii) all vehicles will comply with the relevant speed to minimize dust generation; (iii) vehicle emissions will be minimized through good maintenance practice (including proper restrictions on idling, etc.); and (iv) the routing of vehicles away from residential areas.

#### 5.1.5 On Solid Wastes

Impacts: It is expected that during construction phase of the Project considerable amount of solid wastes would be generated requiring appropriate management. The improper solid waste management could result in a number of potential impacts, such as (i) soil contamination; (ii) surface and groundwater contamination; (iii) visual and aesthetic impacts due to trash and litter; (iv) health and safety hazards to humans, livestock and wildlife; (v) air quality impacts through inappropriate combustion; (v) increase pressures on existing waste management capacities in the communities. In the operational phase, generated solid waste would consist of materials from the maintenance-repair activities of the railway line.

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Mitigations: Corresponding to the impacts are mitigation measures consisting of (i) coming up with a Waste Management Plan (WMP) to be developed by the Contractor based on minimization, recycling and reuse; (ii) treat and process the waste, without causing secondary impacts to soils, water resources and air quality; (iii) dispose of the waste in a controlled way (i.e., to a licensed facility), without compromising existing waste management capacity. During the operations the disposal of these wastes for repair-maintenance would be carried out according to the relevant Turkish regulations.

#### 5.1.6 On Noise Levels

Impacts: Considerable noise would be generated in the Construction Phase emanating from utilization of the construction equipment and machinery during excavation, vehicles for transport, and pertinent machinery for laying the rails. In the operational phase, noise will be generated on the tracks and by train braking system which will be source of nuisance and discomfort to people.

Mitigations: The appropriate mitigation measures to be applied would consist of (i) scheduling construction activities on day time; (ii) exercising control on the construction equipment; (iii) provision of appropriate training to personnel who will handle noisy equipment; (iv) when using explosives all the required procedures regarding the noise and vibration control would be followed. During the operational phase, if the noise exceeds allowable limits, noise barriers would have to be installed, especially near settlements.

#### 5.2 Biodiversity, Protected Areas and Protected Species

As presented in the EIA Report (Dokay, 2006) the AIHSTP route corridor did not cross any nationally protected area and thus did not pose a threat to biodiversity. The natural sites with no protection status which are somewhat close to the AIHSTP are as follows:

- Poyrazlar Lake and its surrounding
- Hanli District, Sakarya Riverbank
- Sapanca, Vakif Hotel Road
- Sapanca, Around Kirkpinar
- Between Arifiye-Sapanca
- Sapanca, Between Akcay-Fevziye Village

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The EIA also stated that a number endemic species do exist in the general vicinity of the AIHSTP alignment which are under Turkish RDB risk categories, and which are protected by Turkish Environmental Legislation. However, strictly speaking there is no plant species which is under protection in the context of CITES Convention and Bern Convention. Also the endemic taxa are not homogeneously distributed; it changes with height and habitat characteristics. Because of this, areas lower than 1,000 m and irrigational areas are poor in endemic taxa. Hence, the number of endemic taxa along pipeline route is low. The EIA also commented that since the risk status of the endemic and rare flora species found along the railway corridor were not high and the species are widespread in the region, there is no need to take a specific action during the construction of the railway.

Turkey is signatory to the Bern Convention and thus have a force of law within the country. Because of this, the nationally and internationally Important Fauna Species Appendices of Bern Convention and the species listed in them are under protection in Turkey. Thus, all of the reptile and amphibian species found along the AIHSTP route are protected by Bern Convention and thus to be preserved or left undisturbed during construction. With the exception of the ones given below, all of the bird species are likewise under the protection of Bern Convention.

With the result of the above investigation and assessment on the matter, the EIA confirmed that there is no significant threat to biodiversity. However, monitoring by relevant Turkish agencies should be done to ensure that preservation of species would continue and progress. Monitoring on the local levels was followed-through in the obtaining of necessary permits by the Contractor from relevant agencies during the construction period. Copies of such permits are found in Part 12.

### **5.3 Climate Change Aspects**

The transport sector has been regarded as one of the main culprits for the rise in global temperature due to the emissions coming from various types of motorized transportation used by people. Nevertheless, to improve access, transit, and safety, the investment in land transport, such as roads and rail, has been growing. The AIHSTP is a step in that direction with the objectives of (i) to decrease the travel time between Ankara and Istanbul; (ii) to provide a comfortable and safe transportation opportunity; and (iii) to increase the share of railway in the national transportation network.

The third above mentioned objective of AIHSTP is relevant to mitigating climate change as this will result in lessening the use of non-mass transport system which eventually results in less emission to the atmosphere from private vehicles. The minimization of emissions is an important step in improving air quality and decreasing contribution to emerging problem and threat of climate change. On this respect, further detailed studies can be done to determine the AIHSTP's carbon footprint which can be basis of added support to the project. Future studies on carbon credit potential of the project can improve the AIHSTP's rating as environmentally-friendly project.

On the subject of climate risks, the AIHSTP does not cross wide rivers or major lakes which are subjected to flooding. Intensive hydrologic analysis were done on major rivers such as Sakarya River which yielded safe designs against flooding which may be caused by climate change. Hence, it is safe to assume that climate adaptation features are already built-in the designs of the AIHSTP.

#### 5.4 The EIA for the Realignment

By the middle of May 2009, the tentative realignment points were determined and were in the process of being redesigned. During the May 2009<sup>2</sup> environmental site inspection, a couple of these problem sites were inspected. As these realignment sites were not part of the original track alignment in the 2006 EIA, the PCIU recommended to TCDD that a separate EIA would have to be prepared or an updating of the old EIA be done for the new realignments. This was mentioned in the Annex A.4 Environmental Report for the November 2009, as follows: "Within the Stage 2 of the AIHSTP, from Inonu to Köseköy, as part of design enhancement and due to the destabilizing impact of the highway construction activities parallel to the railway, realignments need to be done in a number of locations such as in (i) Bozüyük area; (ii) Vezirhan area; (iii) Tunnel 26 area; and (iv) the Sapanca area. The realignments will entail considerable stretch of variance on the original railway route necessitating a review and updating on the EIA Document. The Sapanca area will entail a major variant where a separate EIA will be required. The review and updating of the EIA should be commissioned to reputable EIA consultants by TCDD at the soonest possible time, prior to commencing any work at the realignment sites." As part of the resolution of this issue, the TCDD prepared a separate EIA Report in March 2010<sup>3</sup>. The is-

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<sup>2</sup> A.4.4.4. SECTION İNÖNÜ – KÖSEKÖY REALIGNMENTS of the Environmental Monitoring Report (Part of AIHTP-PCIU- REP-003/2009: SIX MONTHLY PROGRESS REPORT - MAY – OCTOBER 2009)

<sup>3</sup> En-Cev (March 2010), Ankara-Istanbul High Speed Train Project (Realignment on Second Phase) Environmental Impact Assessment Report

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sue of the new EIA for the realignment was deliberated during the six-monthly presentation-meeting on May 4, 2010.

Prior to the submission of the EIA for the realignments, a letter was issued by the Ministry of Environment and Forestry stating that the Realignment Works of the AIHSTP were considered exempted from the new EIA Law, dated July 17, 2008. This letter cited a former correspondence issued by the Ministry of Environment and Forestry to TCDD Administration General Director dated 22.08.2006 and no. 6798, stating that “*since the Ankara-Istanbul High-Speed Train Project is being taken under Investment Program in year 1994; it was evaluated to be not covered by EIE Regulation context*”. Citing this same stance, the Ministry hence said that “*it was understood that the **modifications** to be done on the Ankara-Istanbul High-Speed Train Project are not covered by the EIE Regulation*”. With this pronouncement, the TCDD took the ruling with finality that the realignment routes are also not covered by the new EIA Law of Turkey.

In the early part of 2010, En-Cev was commissioned to undertake an EIA for the realignment in response to the aforementioned issues. In the EIA document submitted by En-Cev for the route realignments, the technical information was compiled from reports prepared by CRCC-CMD-Cengiz-IC Ictas Joint Venture, Yuksel Proje and Alakko/OHL/G&O Joint Venture. In effect, the track-route selection was subjected to certain screening processes to come up with the most preferred alternatives, taking into consideration engineering and construction constraints as well as socio-environmental aspects. The prepared EIA by En-Cev in a way investigated and validated the socio-environmental components of the project as part of the funding requirements of the EIB. This is following similar procedural aspects relevant to calling for an EIA (prepared by Dokay in 2006) for the original alignment as expressed in the loan agreements. By March 2010, the EIA document was completed and presented to TCDD. This EIA for the realignment was submitted to the Ministry of Environment and Forestry and which was subsequently responded by an official letter<sup>4</sup> stating that the Project was not covered by the current EIA Law of 2003.

The PCIU reviewed the EIA document within the framework of the front-runner 2006 EIA document which submitted and subsequently accepted for EIB funding. The 2006 EIA on the originally designed alignment and project details became the basis of the on-going environmental monitoring by the PCIU on the construction and implementation activities. As observed, the realignment sites were located in the same general area such that the environmental precepts and

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<sup>4</sup> Letter of the MINISTRY OF ENVIRONMENT AND FORESTRY, General Directorate of Environmental Impact Evaluation and Planning to EN-ÇEV ENERJİ ÇEVRE YATIRIMLARI VE DANIŞMANLIĞI LİMİTED ŞİRKETİ / EN ÇEV ENERGY ENVIRONMENT INVESTMENT AND CONSULTANCY LTD. CO. Number: B.18.0.ÇED.0.01.02.220.03[227.01.185] (24 February 2010)

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characteristics would not vary drastically in the identified regime of the study. This was manifested in the overall discussions on Environmental Baseline Data found in Chapter 5 of the EIA for the realignments, which were comparable to the discussions in the previous EIA for the old alignment. The topics covered consisted of adequate discussion on topography, land use, climate, geology, seismicity, mineral resources, water resources and hydrology, protected areas and sensitive zones, flora and fauna, protected species, woodlands and forest, air-water-soil quality, noise levels and socio-economic characteristics. The realignment routes also were far from protected areas and would not adversely impact native protected flora and faunal species in the area. Potential environmental impacts were also identified for construction and during operation in the new EIA document for the realignments. The Environmental Management Plan was presented as consolidated strategy to respond to identified impacts for the purpose of avoiding, minimizing and/or eliminating socio-environmental impacts during construction and operation.

Upon comparison, the EIA for the realignments could serve well as a supplement to the previous 2006 EIA for the monitoring of the construction activities in the realigned tracks.

#### **5.5 EIA for the Gebze – Köseköy Section**

Recently, the Gebze - Köseköy Section was taken out of the funding of the EIB and subsequently administered and contracted out by CFCU under IPA financing. In October 2009, an EIA for the section became available which was purportedly an update of the previously prepared EIA for the AIHSTP by Dokay in 2006.

Much of the content of the updated EIA for the Gebze - Köseköy Section were referenced from the previous 2006 EIA, since this was part of the original sections of the entire AIHSTP. As mentioned in the 2006 EIA, the work in the Gebze - Köseköy Section are primarily rehabilitation works and to be carried out within the existing railway corridor, such that a Public Consultation and Disclosure meeting would not be necessary.

Consistent with the rationale on the realignments, the EIA for the Gebze - Köseköy Section can be used as supplement to the previous 2006 EIA for the monitoring of the construction activities in these tracks. The prospective Contractor should use the EIA document as reference to tailor-suit specific measures which will be applicable to the affected areas. The Construction Supervision Consultant as well as the PCIU should later draw-up the framework of environmental monitoring to ensure that minimal impacts will result during the construction phase.

## **6. Social Assessment**

### **6.1 Land Acquisition and Involuntary Resettlement**

As mentioned in the 2006 EIA, the width of the corridor along the AIHSTP route varies between 20 to 50 meters. The expropriation for the Eskisehir-Köseköy section Esenkent-Eskisehir section had been finalized, enabling the project to proceed. The land values were determined by mutual negotiations and in accordance to prevailing market prices, in which no major objections and oppositions were expressed.

The expropriation plan prepared for the AIHSTP was based on the Land Acquisition Law (numbered 6830), wherein the TCDD, through the Land Acquisition Commission, would compensate (acquisition of lands or easement of rights) the lands to be taken for construction purposes from the villagers who own and/or had been using the lands. For public lands and forest areas, the acquisition was in accordance to the Forestry Law (numbered 6831) and Article 17 Paragraph 3 of the Law Regarding Changes to the Forestry Law (numbered 5129), whereby all necessary permits shall be taken from the General Directorate of Forestry.

According to the Regulation on Protection and Utilization of Agricultural Lands (published in the Official Gazette dated 25.03.2005 and numbered 25766), opinions of the Provincial Directorates of the Ministry of Agriculture and Rural Affairs must be obtained for the construction works to be undertaken in arable lands. Similarly for pasture lands, as per the Pasture Law (numbered 4342), necessary applications should be made to the Provincial Agricultural Directorates for such construction purpose.

Compliance to above conditionalities rests on the TCDD prior to allowing Contractors to commence work on rail corridor. In cases of disputes with owners of land, the normal courts have jurisdictions to process any claim in accordance with prevailing Turkish law.

### **6.2 Rights and Interests of Vulnerable Groups**

The EIA process did not encounter any vulnerable groups along the rail corridor such that no further measures for the construction as well as for the operations were recommended in this respect.

#### **6.3 Labour Standards**

At present in Turkey, the collective industrial relations are covered by the Law No. 2821 (1983) on Unions and the Law No. 2822 on Collective Agreements, Strikes and Lockouts. These two laws confirm the freedom of association and collective action, while regulating their use in the same spirit as their predecessors issued in 1963. While being enforced, these laws are undergoing some changes in accordance with the European Social Charter and International Labour Organisation's rulings, and European Union norms.

Workers at the construction site are ensured of adequate facilities of water, sanitation and livable quarters by the Contractor's management in accordance to health and safety standards as well as labour requirements of Turkey.

#### **6.4 Occupational and Community Health and Safety**

As mentioned in the EIA, all works undertaken by the responsible contractor shall be carried out in such a way as not to cause danger or harm to public or breach regulations protecting the public. This includes, but is not restricted to, aspects such as: (i) requiring drivers to obey the speed limits on rural roads, and to take due care and attention; (ii) preventing dangerous road conditions such as mud and dust on road; (iii) minimizing dust generation; and (iv) preventing release of any noxious, toxic or radioactive substances which may harm public health.

Should complaints arise, the TCDD and all responsible actors are to set up a "complaints procedure" that will enable complaints or inquiries to be made direct to a nominated individual (normally the Community Liaison Officer). Proper communication channels are established to ensure prompt actions on any complaints from the public.

### **7. Administrative Actions**

The background of the AIHSTP was researched from available documents and discussions with TCCD officials pertaining to transpired events in the past. Accordingly, the following were gathered:

1. Before 1993, the modernization project of the railway between Ankara and Istanbul was conceptualized, and thus consequently became part of the Government of Turkey's investment package in 1994.

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2. Due to limited funding of the TCDD (formerly TRSR), it became necessary to request for loan funding from EIB. One of the major requirements for EIB funding is the submission of an EIA, with corresponding acceptance of the Turkish Government on such document.
3. However, an official letter from T.R. Ministry of Environment and Forestry dated 30.12.2003 stated that the project was exempted from Turkish EIA Procedure.
4. Nevertheless, in compliance with EIB requirements, an EIA was completed in April 2006 consistent with EIB guidelines, EU regulations and prevailing Turkish Government legislations.
5. A new EIA Law took effect on July 17, 2008 which currently prescribes the requirements for various infrastructural investment projects all over Turkey.
6. Some time in the last quarter of 2008, the consortium of - Euroestudios (Spain), KOCKS Consult (Germany), and TUMAS (Turkey) was contracted by TCDD to be the Project Coordination and Implementation Unit (PCIU) of the Ankara-Istanbul High-Speed Train Project (AIHSTP).
7. In January 2009, active environmental monitoring was done by PCIU with reports compiled and submitted every six (6) months as part of the Bi-annual Progress Reports. Active construction by the Contractor (CRCC - CMC – CENGIZ - ICTAS Consortium) for the Second Stage of the AIHSTP started in this period.
8. In May 2009, due to technical issues, realignments in Stage 2 of the AIHSTP were introduced in the original design.
9. On 28.07.2010, a Declaration was sent to the Directorate General of Railroad, Construction by the From Ministry of Environment and Forestry, Directorate of Nature Conservation and National Parks stating that the Realignments in Stage 2 of the AIHSTP has No Risk of significant Effects to sites of Important Nature Conservation.
10. An official letter dated 24.02.2011 was issued by the Ministry of Environment and Forestry that the AIHSTP track realignment is not covered by the current EIA Law, however all relevant permits for the construction have to be obtained.
11. In March 2010, an EIA for the realignment was completed and subsequently submitted to the Ministry of Environment and Forestry.
12. An official letter dated 21.05.2010 was issued by General Directorate Of Environmental Impact Assessment and Planning to the Directorate General of Railroad Construction stating that on AIHSTP Stage 2 Environmental impact statement stating that though the AIHSTP is not covered by Environmental Impact Statement, per Regulation of Environ-

mental Impact Statement Article 25 (b), the provisions of the said regulation can still be applied by Directorate General of Railroad Construction.

## 8. Public Consultations and Stakeholder Engagements

### 8.1 On the Main Project

Part of the EIA preparation was to conduct Public Consultation and Disclosure (PCD) studies to address the social impact scope of the AIHSTP at the sections where major construction activities were projected to be undertaken, namely in the Esenkent-Eskisehir and Eskisehir-Köseköy sections. The PCD meetings also served as venue to present to the people the nature assessment of the EIA study. In general, the Sincan-Esenkent and Köseköy-Gebze sections of the AIHSTP would have only rehabilitation works, which would be carried out within the existing railway corridor, hence no PCD meeting was necessary for these two sections. Prior to the EIA work, a PCD meeting was done in Polatli on 21.06.2005 for the Ankara-Konya Railway Project (AKRP); therefore to avoid duplication, no PCD meeting was required for the Esenkent-Eskisehir section in the 2006 EIA. For the Eskisehir-Köseköy section, PCD meetings were done in two major cities of Bozüyük and Pamukova.

The PCD meeting in Pamukova was held on 08.12.2005 at 14:00 at Pamukova Municipality Cultural Center. This was attended by the Pamukova Mayor, village muhtars of affected villages and local residents. A presentation of the project was done followed by an open forum discussions for the questions by the attendees. Aside from the topics of technology behind AIHSTP, the community was anxious to be informed on the expropriation procedures particularly on land values as well as the time and method of payments. Overall no negative sentiments were communicated during the meeting by those who attended.

The PCD meeting in Bozüyük was held on 09.12.2005 at 14:00 at Bozüyük Municipality Wedding Hall and was attended by the Bozüyük Governor, Bozüyük Mayor, representatives from the Regional Chamber of Commerce and Trade, ward associations, local NGOs like cultural and social support associations, muhtars of affected villages and local residents. In this meeting, doubts were expressed regarding the original route which would traverse the center of the city and thus could cause general disruptions in the locality. It was requested that a change of route be explored to avoid such circumstances, which the TRSR (now TCDD) authorities took note of. Expropriation issues were also brought out by the participants focusing on land valuation, mode

and time of payments which the TRSR stated to be subject to market price valuations and mutual negotiations.

The mitigants for the expropriation issues expressed by the people would consist of judicial application of laws pertaining to such matter in an acceptable manner. Follow-up on such arrangement would be undertaken in progress reporting which can be done by TCCD during the construction phase. The outputs of the public consultation and disclosure meetings with the key interest groups and the communities in the region were incorporated in EIA report<sup>5</sup>.

### **8.2 On the Realignment**

Pursuant to Turkish Environmental Law requirement, Public Consultations and Disclosure meetings were held in the cities of Osmaneli and Pamukova on 18 February 2010 to present the AIHSTP's Realignments to the affected stakeholders.

The PCD meeting in Osmaneli was conducted at the Social Services Saloon of Osmaneli Municipality at 10 o'clock in the morning. This was attended by the governor of the district, the Osmaneli mayor, concerned village chiefs and local residents. The Project was introduced by the EIA consultant (En-Cev). The open forum discussions revolved primarily on the expropriation and compensation aspect of the project.

The Pamukova PCD meeting was conducted at Pamukova Municipality Cultural Center at 3 o'clock in the afternoon. The attendees were representatives of the Pamukova, Sapanca and Geyve municipalities. Questions revolved around noise concerns, operational concerns as well as expropriation processes. In the meeting it was observed that there was clear support on the project coming from the participants.

## **9. Other Environmental and Social Aspects**

The AIHSTP has been one of the major undertakings of TCDD, who is regarded as the promoter, implementer and operator of the project. The responsibility of ensuring environmental and social safeguards of the project rests on TCDD.

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<sup>5</sup> By Dokay Engineering and Consultancy Ltd. (April 2006), Ankara-Istanbul High Speed Train Project Environmental Impact Assessment (AIHSTP EIA) Report.

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During the implementation, the TCDD had tendered a contract for consultancy services for a Project Coordination and Implementation Unit (PCIU), in which a major part of the service is to perform environmental monitoring for the project. A JV firm of Euroestudios (Spain), KOCKS Consult (Germany), and TUMAS (Turkey) was selected to undertake such work. Within the Project framework of the AIHSTP, the PCIU would assist TCDD in monitoring and analyzing the contractor's Environmental and Safety Management Systems to ensure that no adverse environmental and social impact will result from the implementation phase. Every six months an environmental recapitulation is done consisting of a description of any major issues encountered which have impacts to the environment as part of the Bi-annual Progress Report. With the engagement of Construction Supervision Consultant, JV-Ineco (Spain) and UBM (Turkey), another layer of environmental and social monitoring was incorporated. As part of the construction supervision scope, a day-to-day audit is being undertaken with more detailed reporting. In addition, the Contractor himself provides self-monitoring report on both the environmental and social aspects of the AIHSTP.

### 10. Coordination with Local Authorities

It is the Contractor's duty to coordinate the Works with the local authorities. The purpose of such coordination is to ensure that no local legislations are violated in the implementation of the project as well as to obtain permission sufficiently ahead of time prior to performing any scope of the Works. Coordination is also necessary in order to avoid problems and obtain assistance in handling local issues pertaining to the use of infrastructure; utilities, resources, land, etc. Coordination activities were handled through formal correspondences which were catalogued by the Contractor.

### 11. Conclusions

Considering the scope and background of the AIHSTP, the environmental management aspect of the project had been very challenging. Nevertheless, there were certain items that can be highlighted as follows:

- The project proponent, TCDD, endeavoured to satisfy the requirements of the EIB in terms of providing the EIA within the bounds of prevailing legislations. EIA documents were provided for the initial alignment as well as for the realignments and the Gebze - Köseköy Section. The Ministry of Environment and Forestry took cognizance of such documents, but



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deemed the project exempted based on EIA Law's date of effectivity without prejudice to EIB's requirements.

- Sufficient legal bases in the local and international aspects were given due cognizance in the preparation of the EIA documents.
- The environmental monitoring processes and protocols adhered to the EIA's in conformance to Turkish legislations and EU regulations and directives.
- The introduced track route realignments were necessary to ensure high-speed train travel, minimize physico-environmental risk and decrease social impacts.
- There are no protected areas traversed by the route alignment. However, there are protected of endemic species under RDB risk categories and which are protected by Turkish Environmental Legislation. However, the risk status of the endemic and rare flora species found along the railway corridor are not high and the species are widespread in the region; thus, there is no need to take a specific action during the construction of the railway.
- As signatory of the Bern Convention, Turkey protects all reptile and amphibian species found along the AIHSTP route, with some exceptions. Except those listed under Central Hunting Commission Decision (2005-2006) as not protected, all of the mammals and bird species are protected.
- Monitoring was done at various levels: (i) the CSC environmental specialist undertook weekly monitoring; (ii) PCIU Environmental Expert performed periodic monitoring; and (iii) the Contractor also did its own self-monitoring and environmental parameter measurements. Issues were discussed sufficiently and mitigated by the Contractor within reasonable time.
- Coordination was undertaken between and among the Contractor, the CSC consultant, the PCIU Environmental Expert and the local authorities.

### 12. List of References

- Dokay Engineering and Consultancy Ltd. (April 2006), Ankara-Istanbul High Speed Train Project Environmental Impact Assessment (AIHSTP EIA) Report.
- En-Cev (March 2010), Ankara-Istanbul High Speed Train Project (Realignment on Second Phase) Environmental Impact Assessment Report
- European Investment Bank (2010) Environmental and Social Practices Handbook
- World Bank. (1998) Pollution Prevention and Abatement Handbook
- Prepared by Institute for European Environmental Policy for the EPE Banks. (Dec. 2008). Sourcebook on EU Environmental Law
- USEPA, 1995. Compilation of Air Pollutant Emission Factors, AP-42, Issue 5, Vol. 1: Stationary Point and Arial Sources, Research Triangle Park, NC.
- [www.ankara.gov.tr](http://www.ankara.gov.tr) (official web site of Ankara Governorship)
- [www.eskisehir.gov.tr](http://www.eskisehir.gov.tr) (official web site of Eskisehir Governorship)
- [www.bilecik.gov.tr](http://www.bilecik.gov.tr) (official web site of Bilecik Governorship)
- [www.sakarya.gov.tr](http://www.sakarya.gov.tr) (official web site of Sakarya Governorship)
- [www.depren.gov.tr](http://www.depren.gov.tr) (official web site of Turkish Ministry of Public Works and Settlement General Directorate of Disaster Affairs Department of Earthquake Research)
- [www.die.gov.tr](http://www.die.gov.tr) (official web site of General Directorate of State Institute of Statistics)
- [www.mta.gov.tr](http://www.mta.gov.tr) (official web site of General Directorate of Mineral Research and Exploration)
- [www.ogm.gov.tr](http://www.ogm.gov.tr) (official web site of General Directorate of Forestry)
- [www.tcdd.gov.tr](http://www.tcdd.gov.tr) (official web site of TRSR)
- <http://europa.eu.int/eur-lex> (web site of European Union Directives)
- Yüksel Proje, "T.R. State of Railways, Eskisehir-Köseköy Railway Survey, Design and Engineering Services, Phase 1 Report (Sincan-Esenkent)", 2004.
- Yüksel Proje, "T.R. State of Railways, Eskisehir-Köseköy Railway Survey, Design and Engineering Services, Phase 1 Report", 2003.
- Yüksel Proje, "T.R. State of Railways, Eskisehir-Köseköy Railway Survey, Design and Engineering Services, Phase 1 Report (Köseköy-Gebze)", 2003.

#### 12.1 Turkish Legislations:

- Aquatic Products Law (no. 1380);
- Work Law (no. 1475);
- Environment Law (no. 2872; date: 09.08.1983; published in the 11.08.1983 dated and 18132 numbered Official Gazette);
- Aquatic Products Act (published in the 27.07.1973 dated and 14607 numbered Official Gazette);
- Worker Health and Work Safety Act (published in the 11.01.1974 dated and 14765 numbered Official Gazette);
- Air Quality Protection Regulation (published in the 02.11.1986 dated and 19269 numbered Official Gazette);
- Noise Control Regulation (published in the 11.12.1986 dated and 19308 numbered Official Gazette);
- Water Pollution Control Regulation (published in the 04.09.1988 dated and 19919 numbered Official Gazette);
- Solid Waste Control Regulation (published in the 14.03.1991 dated and 20814 numbered Official Gazette);
- Medical Waste Control Regulation (published in the 20.05.1993 dated and 21586 numbered Official Gazette);
- Hazardous Waste Control Regulation (published in the 27.08.1995 dated and 22387 numbered Official Gazette and revised in the 25.12.1996 dated and 22858 numbered Official Gazette);
- Hazardous Chemical Substances and Products Control Regulation (published in the 11.07.1993 dated and 21634 numbered Official Gazette);
- Notice on Petroleum Waste and Waste Oil (no: 4473-7756; date: 21.11.1997);
- Soil Pollution Control Regulation (published in the 10.12.2001 dated and 24609 numbered Official Gazette); and Environmental Audit Regulation (published in the 05.01.2002 dated and 24631 numbered Official Gazette);
- 2863 numbered (change with the 5226 numbered law) Cultural and Natural;
- Assets Protection Law and relevant regulations;
- Regulation Concerning Pit Holes in Areas Where Sewer Channels cannot be constructed (13.03.1971 dated and 13783 numbered Official Gazette.);
- Regulation for Water Products (10.03.1995 dated and 22223 numbered Official Gazette.);

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- Regulation Regarding Structures Conducted in Disaster Areas (02.09.1997 dated and 23098 numbered Official Gazette.);
- Environmental Monitoring Regulation (24.07.2002 dated and 24825 numbered Official Gazette.);
- Health and Safety Regulation Regarding Structural Works (23.12.2003 dated and 25325 numbered Official Gazette.);
- Waste Oil Control Regulation (21.01.2004 dated and 25353 numbered Official Gazette.);
- Excavation Soil; Construction and Debris Waste Control Regulation;
- (18.03.2004 dated and 25406 numbered Official Gazette);
- Work Health and Labor Security Regulation Regarding Temporary or Limited Time Works (15.05.2004 date and 25463 numbered Official Gazette.);
- Waste Battery and Accumulator Control Regulation (31.08.2004 dated and 25569 numbered Official Gazette.);
- Industrial Connected Air Pollution Control Regulation (07.10.2004 dated and 25606 numbered Official Gazette.);
- Regulation on Protection and Usage of Arable Land (25.03.2005 dated and 25766 numbered Official Gazette.);
- Vegetative Waste Oil Control Regulation (19.04.2005 dated and 25791 numbered Official Gazette.);
- Soil Pollution Control Regulation (31.05.2005 dated and 28831 numbered Official Gazette.).

### 12.2 List of Permits Obtained by the Administration

- Declaration by the Authority Responsible for Monitoring Sites of Nature Conservation Importance, Form A – No Risk of Significant Effects (on the Ankara – Istanbul Main Project), Dated 18-08-2006. (From Ministry of Environment and Forestry, Directorate of Nature Conservation and National Parks; To: General Directorate of State Railways of the Republic of Turkey, Directorate General of Railroad Construction)
- Declaration by the Authority Responsible for Monitoring Sites of Nature Conservation Importance, Form A – No Risk of Significant Effects (on the re-alignments of Stage 2), Dated 28-07-2010. (From Ministry of Environment and Forestry, Directorate of Nature Conservation and National Parks; To: General Directorate of State Railways of the Republic of Turkey, Directorate General of Railroad Construction)

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- Ministry of Environment and Forestry, General Directorate of Environmental Impact, to EN ÇEV ENERGY ENVIRONMENT INVESTMENT AND CONSULTANCY LTD. CO., Dated 24 February 2010 including the statement:  
*“Since the “Ankara-Istanbul High-Speed Train Project” is being taken under Investment Program in year 1994; it was evaluated to be not covered by EIE Regulation context as per our reference to letter (d) according to the Temporary Article 4 of the EIE Regulation dated 2003. As a result of the examination conducted; it was understood that the modifications to be done on the “Ankara-Istanbul High-Speed Train Project” are not covered by the EIE Regulation”*
- Official Letter on AIHSTP Stage 2 Environmental Impact Statement stating that though the AIHSTP was not covered by Environmental Impact Statement, per Regulation of Environmental Impact Statement Article 25 (b), the provisions of the said regulation could still be applied by Directorate General of Railroad Construction. Dated 21.05.2010 (From: General Directorate Of Environmental Impact Assessment and Planning; To: Directorate General of Railroad Construction

### 12.3 List of Correspondences and Permits Obtained by the Contractor for the Construction Phase

NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
	12.08.2009	Governorate of Bilecik	CCCI		x	Permit for Temporary storage of dangerous waste	Soil Contamination
2	08.2009	CIB	Provincial Directorate of Environment and Forestry			Permit of temporary Storage for dangerous waste	Hazardous Waste Control Regulation

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NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
	12.08.2009	Mayoralty of Bilecik	CCCI		x	Directive to process permit for stockpile and debris storage	Excavation Soil, Construction and Debris Waste Control Regulation
	21.08.2009	Mayoralty of Pamukova	CCCI		x	Permit for Stockpile and debris storage at Tugutla Village	Excavation Soil, Construction and Debris Waste Control Regulation
	19.10.2009	Governorate of Bilecik	CCCI		x	Directive to Process Permit for dangerous waste	General Environmental Requirement for the Campsite
1	04.2010	District Governorate of Pamukova Fiscal Directorate	CIB	x		Excavation material	Excavation Soil, Construction and Debris Waste Control Regulation
3	04.2009	CIB	TCDD			License for quarries	Excavation Soil, Construction and Debris Waste Control Regulation
4	02.2009	CIB	TCDD			Forest land permit	

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NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
5	12.2008	CCCI	TCDD			Forest land permit	
6	10.2009	Provincial Directorate of Environment and Forestry	CIB		x	Temporary storage area for dangerous waste	Hazardous Waste Control Regulation
7	11.2009	Municipality of Bozüyük	CIB		x	Excavation materials	Excavation Soil, Construction and Debris Waste Control Regulation
8	03.2010	Municipality of Bozüyük	CIB		x	Waste water	The Regulation For Water Pollution Control
9	08.2009	CIB	Municipality of Bozüyük		x	Domestic waste and waste water	Solid Waste Control Regulation, The Regulation For Water Pollution Control
10	09.2009	CIB	Provincial Directorate of Environment and Forestry		x	Explosions	The regulation for the assessment and management of environmental noise
11	12.2008	CCCI	TCDD		x	Forest land permit	
12	08.2009	Municipality of Pamukova	CIB	x	x	Dumping, debris wastes and	Excavation Soil, Construction and Debris Waste Control

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NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
						excavation soils	Regulation
13	08.2009	Mayoralty of Bilecik	CIB	x	x	Response of request	
14	08.2009	Municipality of Pamukova	CIB	x	x	Dumping, debris wastes and excavation soils	Excavation Soil, Construction and Debris Waste Control Regulation
15	08.2009	CCCI	Municipality of Bozüyük	x	x	Dumping, debris wastes and excavation of soil	Excavation Soil, Construction and Debris Waste Control Regulation
16	08.2009	CIB	Provincial Directorate of Environment and Forestry	x	x	Explosions	The regulation for the assessment and management of environmental noise
17	08.2009	CCCI	Governorate of Pamukova	x	x	Dumping, debris wastes and excavation soils	Excavation Soil, Construction and Debris Waste Control Regulation
18	08.2009	CCCI	Mayoralty of Osmaneli	x	x	Dumping, debris wastes and excavation soils	Excavation Soil, Construction and Debris Waste Control Regulation



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NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
19	08.2009	CCCI	Mayorality of Osmaneli	x	x	Dumping, debris wastes and excavation soils	Excavation Soil, Construction and Debris Waste Control Regulation
20	08.2009	CCCI	Governorate of Pamukova	x	x	Dumping, debris wastes and excavation soils	Excavation Soil
21	08.2009	CCCI	Mayorality of Bilecik	x	x	Dumping, debris wastes and excavation soils	Excavation Soil, Construction and Debris Waste Control Regulation
22	10.2010	CCCI	TCDD	x	x	Pamukova camp and storage area	Hazardous Waste Control Regulation Solid Waste Control Regulation
23	05.2011	TCDD	CCCI		x	Dumping area	Excavation Soil, Construction and Debris Waste Control Regulation
24	26.02.2010	Environment and Forest Ministry	TCDD	x	x	Permit for the high speed railway line for 12 areas	<i>Excavation Soil, Construction and Debris Waste Control Regulation</i>
25	11.11.2009	Environment and Forest Ministry	TCDD	x	x	Stockpile permit for 5 areas	Excavation Soil, Construction and Debris Waste Control Regulation

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NO	DATE	FROM	TO	SECTION 1	SECTION 2	SUBJECT	PROVISIONS IN THE DOCUMENT RELEVANT TO ENVIRONMENT
26	03.06.2009	Environment and Forest Ministry	TCDD	x	x	Permit to high speed railway line for 50 areas	<i>Excavation Soil, Construction and Debris Waste Control Regulation</i>