NAKKAS-BASAKSEHIR MOTORWAY PROJECT

DESIGN CHANGE MANAGEMENT PROCEDURE (DCMP) FOR ENVIRONMENTAL AND SOCIAL ASPECTS

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1.0 INTRODUCTION AND CONTEXT

The Environmental and Social Impact Assessment (ESIA) is prepared based on the design information provided by Nakkas Otoyol A.Ş. and evaluations by ERM. As stated within the ESIA and as usual for projects of this scale, further design development, including the detailed design necessary for the construction of the road and bridge, is to be undertaken.

This Design Change Management (DCM) Procedure sets out how the environmental, social, health and safety (ESHS) implications of the design development will be assessed. The assessment of the design will aim to ensure that adequate mitigation is adopted to minimise and avoid effects where any deviations to the scheme described in the ESIA are proposed.

An overall DCM Process considers not just ESHS, but also financial, construction, programme aspects. The procedure set out in this document describes only how the ESHS aspects are to be assessed, but will become an integrated part of the overall decision-making process for reviewing design changes.

ESHS include air quality, noise & vibration, water resources, land use, archaeology, cultural heritage, and biodiversity; social aspects include labour and working conditions including OHS, community impacts such as public health, safety, security, gender equality, cultural heritage, and involuntary resettlement.

As is typical for such a large infrastructure project, it is expected that there will be changes required to the many design aspects of the Project. Many DCs will be of a purely technical nature with little/no ESIA-relevance (eg incline of a ramp, or concrete specifications), and many other DCs are expected to fall within the areas and issues already covered by the ESIA and the Environmental and Social Management and Monitoring Plan (ESMMP) and Resettlement Action Plan (RAP) (eg change in areas of property expropriated from already-affected landowners, layout of facilities at the rest areas). It should be kept in mind that DCs can also have significant positive implications for the Project.

An overview of the DCM Procedures for ESHS assessment topics is provided in the figure below, and a description of the key phases is also provided.

1.1 Acronyms, Abbreviations and Definitions

The following acronyms, abbreviations and definitions apply to this document:

TERM	DEFINITION
BOT	Build-Operate-Transfer
Consultant(s)	Nakkas Otoyol's Environmental and Social Specialist Subcontractor(s).
DC	Design Change
CONTRACTOR	Nakkas Otoyol A.S
DCMP	Design Change Management Procedure
E&S	Environmental and Social
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
KGM	Turkish Ministry of Transport, General Directorate for Highways

TERM	DEFINITION
HSE	Health, Safety and Environmental
NOV	Notice of Variation
OHS	Occupational Health and Safety
PROJECT	Nakkas Basaksehir Motorway
PROJECT OWNER	Turkish Ministry of Transport, General Directorate for Highways
RAP	Resettlement Action Plan

2.0 DCMP FLOWCHART

An overview of the DCMP for ESHS topics is provided in the Figure 1 below, followed by a description of the key steps in the process. (Note that some of the details in the figure may need to be updated in future including Health and Safety aspects to be considered in design, depending on the conditions of the BOT Contract between KGM and Nakkas Otoyol).

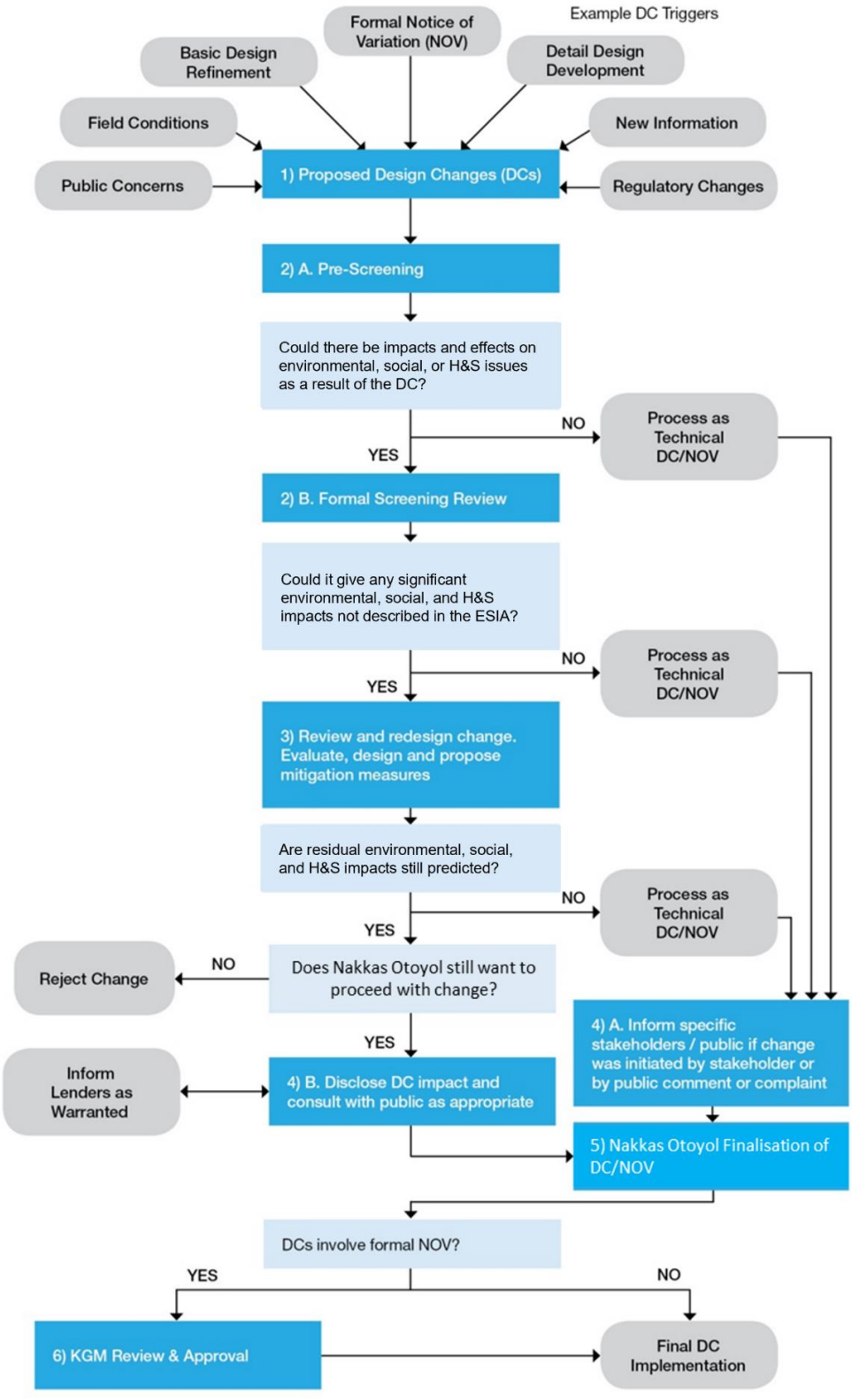


Figure 1 *– DCMP Flow Chart*

The key steps shown in the figure are described below.

3.0 TRIGGERS/SOURCES FOR CONSIDERATION OF DESIGN CHANGE

Potential design changes (DCs) can be triggered at various stages of the Project implementation (e.g. Planning/Detailed Design, Construction, Operation) and by the various organisational parties shown in *Figure 1*, e.g.:

- Basic design refinement, e.g. by Nakkas Otoyol A.Ş engineers/planners,
- Detailed design development, e.g. by Subcontractors on KGM-approved designs,
- Field obstacles during construction,
- Results of further field surveys (e.g. archaeology, biodiversity, socio-economic surveys, and any others that are key for the Project) and monitoring,
- Comments/concerns submitted by public/stakeholders/lenders,
- Changes in regulations/comments by regulatory bodies;
- Requests from KGM.

Regardless of the trigger source, any potential DC must formally be processed through the DCMP.

4.0 DESIGN CHANGE PRE-SCREENING AND SCREENING

4.1 Pre-Screening

"Pre-Screening" will be performed by the design department, including an expert competent to assess environmental and social issues (responsibility of Nakkas Otoyol Engineering Manager and HSE Manager) of any proposed DCs: this will mean that proposed DCs that are clearly of no relevance with respect to environmental or social topics - or having very minor implications for the Project implementation - will not be subject to further Screening. The change will be processed as a Technical Design Change / Notice of Variation (NOV).

4.2 Screening Review

A desk-based "Screening-Review" will be performed for any proposed DCs that in the opinion of Nakkas Otoyol's design department and HSE Manager have the *potential* to give rise to new or additional significant impacts (positive or negative) which differ to those as presented in the ESIA Report. The Screening will cover the following criteria *inter alia*:

a) Compliance with national, international and Lenders environmental and social standards;
b) Compliance with relevant health & safety regulations and standards;
c) Compliance with ESIA-related legal standards and permitting requirements;
d) Any new impacts on current stakeholders and impact to new/additional stakeholders (e.g. beyond that already considered in the ESIA/RAP);
e) Any expansion of Project footprint requiring additional land take and expropriation (e.g. beyond that already reflected in the ESIA/RAP);
f) Impacts on relating to the full list of topics considered within the ESIA; and
g) Any new/different ESIA-related item/topics that are not already appropriately addressed in the ESIA Package.

The Screening will be performed by/under the direction of the Nakkas Otoyol HSE Manager, with involvement as warranted of other internal Nakkas Otoyol staff and/or the external Consultants specialized in Environmental, Social, Health and Safety services. Screening results will be logged and recorded in a suitable format (to be determined by Nakkas Otoyol). The Screening results will be available for review by the Lenders and their Advisors.

The potential outcomes of the DC Screening can be grouped as follows:

- **No Significant** ESHS **Impacts** – where there are no significant implications or additional negative impacts identified as compared to the items addressed in the ESIA Report and a change does not trigger additional/new mitigation measures. As such, the screening results will be logged and the NOV (Notice of Variation) will be further evaluated and processed on basis of the technical, cost and other non-ESIA factors.

- **Significant** ESHS **Impacts** - where there are significant or potentially significant implications with respect to ESIA-related topics that cannot be readily quantified or mitigated and were not already addressed in the ESIA (and/or pose significant reputational exposure). In this case the screening results will be logged and a "DC ESIA Review" will be undertaken (see below).

5.0 REVIEW AND REDESIGN CHANGE

For those proposed DCs for which the Screening suggests significant/potentially significant ESIA-related impacts, the Nakkas Otoyol HSE Manager will undertake appropriate consultation internally and with the Consultants regarding any further mitigation or other measures (including further design development) needed to comply with the relevant ESIA standards. The determination of "significance" of a potential impact will be largely based on the corresponding definitions in the ESIA for the relevant ESHS topics.

If no further residual significant ESHS impact is predicted the change will be processed as a Technical Design Change / Notice of Variation.

6.0 COMMUNICATION WITH STAKEHOLDERS

6.1 Inform Specific Stakeholders

Nakkas Otoyol (and/ or KGM) will directly inform, about their decision, specific stakeholders in writing where the DCM Procedure was initiated on their initial suggestion.

6.2 Disclose Results and Consult Affected Stakeholders

If the DC/NOV results in significant ESHS impacts that cannot be readily quantified or mitigated and/or affect additional stakeholders (as compared to stakeholders already involved in the ESIA process), and Nakkas Otoyol still want to proceed with change then further disclosures on the Project web-site (plus local postings, flyers etc. as appropriate) and local public consultation may be undertaken if warranted with the directly affected stakeholders (e.g. also with the local village leaders, as appropriate). The type and extent of disclosure/consultation will depend on the severity and scope of the DC impacts, with the intent being to ensure that the objectives and spirit of the public engagement of the ESIA process are maintained. A time-line of not more than 15 days will be proposed for receipt/inclusion of any feedback as appropriate on a case-by-case basis.

Any obligatory regulatory consent and other formal procedures will also be completed during this stage. Lenders will be kept informed of such matters at reasonable frequencies.

7.0 FINALISATION OF DC IMPACT UPDATE AND DC/NOV

Nakkas Otoyol (Responsibility: Design Manager), with the assistance of the Consultants, will review and compile any feedback received from Lenders, Public and other parties on the DC Impact Update and will prepare a final version that includes due consideration of the feedback and comments received. These updates will be provided to Lenders when they occur.

On a case-by-case basis, further discussions of the intended mitigation measures may be needed with stakeholders during the finalisation process.

As applicable and appropriate, specific feedback can be given to the stakeholders that have raised queries comments with respect to the DC.

8.0 SUBMITTAL TO GM FOR APPROVAL (IF RELEVANT)

If the original DC is related to a KGM-approved design, then the formal NOV will be prepared, including relevant measures/considerations from the DC Impact Update, and submitted to KGM for their review and approval. If the DC is not related to a KGM-approved design, then Nakkas Otoyol will adapt the DC Impact Update to the current draft design stage and further proceed as per the internal design process.

Finally, Nakkas Otoyol will implement the agreed DCs.

9.0 SUMMARY

The intent of the DCMP for ESHS assessment includes the following key principles:

1. The proposed DCMP for ESHS related issues will be integrated by Nakkas Otoyol into the overall DCMP of the Project;
2. The Procedures will begin to assess design changes during design development process;
3. Significant proposed DCs must be reviewed for their ESHS -relevance, and appropriate mitigation measures must be developed;
4. Proposed DCs that are irrelevant/insignificant get flagged in the internal “pre-screening” by Nakkas Otoyol and are not included in the further Procedures;
5. Potentially significant ESHS -relevant DCs undergo formal Screening and further DC Review/evaluation (with consultants and other experts) as warranted on case-by-case basis;
6. All DC screening results are logged, and can be reviewed by Lenders if desired;
7. The first preference for minimization of potential negative ESHS impacts will be to review the proposed DC for alternative designs to avoid the impacts;
8. For any significant DCs for which additional mitigation measures are warranted, a DC Impact Update will be prepared and submitted to the Lenders;
9. Specific stakeholders will be directly informed in writing where the design change process was initiated by them;
10. On case-by-case basis, further public information and potentially consultation will be implemented;

11. Proposed DCs stemming from approved KGM designs must be submitted to KGM for final approval.

In addition to the above, Nakkas Otoyol will undertake monthly internal reporting of the DCs (and related Screening Results and DC Impact Updates etc).

10.0 DCMP REVISION

This procedure must be revised when needed, to meet or determine the following conditions:

- Updates deemed necessary after the occurrence of a real ESHS Design Change;
- Change in coordinators and others involved in the administration of this Procedure.

11.0 APPENDIX

Appendix A: Example of a Design Change Screening Matrix - for potentially significant DCs (subject to revision by Nakkas Otoyol A.Ş. and to be integrated as appropriate into the overall DC/NOV procedures of Nakkas Otoyol A.Ş. for the Project)

PROJECT: ESHS TOPICS *SCREENING MATRIX*		
Date of initial Matrix Preparation: DD/month/YEAR		
Reference: DC0001 v 1.00 – (as per NAKKAS OTOYOL A.Ş. nomenclature)		
Name of NAKKAS OTOYOL A.Ş. responsible person: eg HSE Manager XX		
Summary of Proposed Design Change (Attach details as appropriate): INSERT Short-Name of DC/NOV ***(Example - reconfiguration of Service Area Layout at KM xx)*** GIVE SHORT DESCRIPTION of proposed DC/NOV: Example: Contractor proposes to …See drawing no.s. …….. (attached)		
Appraisal criterion	**Appraisal of Design Change implication/potential measures to avoid/minimise the impacts**	**Resulting Significant change* (Y/N)**
a) Compliance with Env and Social Standards:		
Environmental issues: • climate • air and noise • surface and groundwater • geology and soils • resources • waste • biodiversity • landscape		
Social issues: • land use and expropriation • community disruption • socio-economic impact • human rights • labour context • gender aspects • employment • livelihood • severance • community health, safety and security • vulnerability		
b) Compliance with Health and safety aspects		
c) Compliance with Legal and permitting issues		

d) Land-take impacts (see also Social Impacts above)		
e) cultural heritage/archaeology		
f) Other relevant factors		
* material issues eg defined as potential significant E&S impacts that cannot be readily quantified or mitigated and/or have material, scheduling, reputational or other impacts		
Summary and Conclusions by NAKKAS OTOYOL A.Ş. : **Further DC Review is warranted for this proposed DC? Yes___ No____**		