REPUBLIC OF SRPSKA
MINISTRY OF PHYSICAL PLANNING,
CONSTRUCTION AND ECOLOGY
BANJA LUKA
Trg Republike Srpske 1

No: 16-96-135/10
Date: 21/03/2011

Upon the request of Public Company "REPUBLIC OF SRPSKA MOTORWAYS" represented by Dušan Topić for issuance of the Environmental Impact Study for the project of construction of the Banja Luka – Doboj motorway pursuant to the Article 68 of the Law on environment protection – the revised text (Official Gazette of the Republic of Srpska no. 28/07, 41/08 and 29/10), Article 2 of Regulations on the projects subject to environmental impact assessment and criteria on determining the requirement and scope of the environmental impact assessment (Official Gazette of the RS no. 7/06 and 21/10) and Article 190 of the Law on the general administrative procedure (Official Gazette of the Republic of Srpska no. 13/02), the Ministry of physical planning, construction and ecology of the Republic of Srpska, Banja Luka, passed the following

DECISION
on the approval of the Environmental Impact Study

1. This is to approve of the Environmental Impact Study for the project of the construction of Banja Luka – Doboj motorway. Public Company "REPUBLIC OF SRPSKA MOTORWAYS" Banja Luka is the Investor of this project. The Environmental Impact Study has been prepared in compliance with the provisions of the Law on environment protection and by-laws passed in accordance with the respective Law. The author of the Study is "TEZ" Banja Luka (Environmental and Technical Institute), the institution authorized by this Ministry.

2. During the construction and exploitation of the motorway, in compliance with the decisions of the Environmental Impact Study, Public Company "REPUBLIC OF SRPSKA MOTORWAYS" Banja Luka shall apply the measures of prevention, reduction or mitigation of harmful impacts on the environment, especially concerning

2.1. land protection

In the course of implementation:
- all the excavated material, which shall not be used immediately for the construction, is to be discharged at the foreseen locations, in compliance with the Site Management Project (discharge of surplus material), protected from the erosion and outside the assumed zones of high water pollution risk.
- the material may not be discharged into the river-bed and along the river banks, or in the sanitary protection zones, or high water pollution risk zones. In case these are located on the public waters, the approval will be sought from the water management authority.

- preserve vegetative cover or leave vegetative buffer zones between the road and water entity.
- protect areas sensitive to erosion by stabilization products or anti-erosion plants
- take controlled care of communal and harmful waste in prescribed manner i.e. forbid any temporary or permanent waste disposal to nearby land unless provided for differently by the Site Management Project for particular locations, and provide waterproof waste containers. During the construction, the Contractors may find marked or unmarked depots of various garbage. Such depots, depending on the type of garbage, should be rehabilitated according to special projects.
- Used hygienic-sanitary waste waters from the site shall be collected by safe sewage systems, collected by three-chamber waterproof septic tanks and filtered in a prescribed manner (either on the site or on the distant location) before its discharge into the recipient. Ecological toilets must be installed for the workers on the site locations.
- ensure areas with waterproof bottom for accommodation and repair of machinery out of zones defined as the high risk water pollution zones. Collect oiled rainfall from this location and purify it by use of sand trap and grease trap before its disposal into the recipient.
- To avoid the effects of unnecessary land compression, as this is the way to lose some of its important properties, it is necessary to rationalize all the vehicle movements, this especially referring to the land with high level of underground waters – the excavation of such land must be done under optimal circumstances in terms of humidity. With the removal of humus, make sure that the entire layer is removed at once to avoid unnecessary compression.
- all the surface areas on the site and other zones of temporary impact should be rehabilitated according to the Rehabilitation Plan. Put the area into the initial state, depending on the future use of this surface.
- Make separate cultivation projects for all borrow pits and depots of material to prevent degradation of larger soil surfaces. It is very important to comply with this measure when it comes to materials obtained by excavation of projected tunnel.
- for all the activities that were not included in the project, yet are related to change of the farm land into the land used for other purposes, the Investor shall file the request for the amendment of the existing preliminary Study or for preparation of new Preliminary Impact Study.
- In case of an accident, urgent intervention is due in compliance with the operational plan of urgent measures for different accidents.
- on the entire surface of works execution temporarily remove the surface layer of land 20 to 40 cm thick by cross-cut removal of layers and material disposal to the temporary depots along the border of the works zone. This material (soil) should be used for humus coating of the new embankments slopes and cuts, while the remaining humus is returned to the road trunk.
- for a good quality preservation of the fertile land, the following measures will be taken:
    - prior to commencement of the construction works, all fertile land should be removed and stored to specific locations (fertile land depots).
    - the layer of fertile land should be removed when the soil is moderately humid, i.e. neither wet nor dried out, in the period March – November.
    - the fertile land layer temporarily stored at the depot should not be higher than 2 meters,

    - stored fertile land must not be stamped by the machinery/equipment or transport means,
    - fertile land depot must not be contaminated by chemicals (motor oils, oil)
    - fertile land depot must not be exposed to erosion caused by water or wind.
- In the course of construction, it is necessary to ensure the use of proper machinery and construction equipment to avoid land contamination by leakage of oil and oil products or motor oils.
- execute motorway works in such manner to avoid damages to local access roads.
- the Investor shall repair all the damages on the local and access roads and return roads into the initial state.

During the exploitation:

- protect surfaces sensitive to erosion by soil stabilization products and anti-erosion plants,
- should during the site management any need for special anti-erosion measures occur, such measures must be applied and system of such measures must be part of a separate project,
- monitor functioning of the controlled closed drainage system in the road exploitation phase. It is necessary to prepare the Plan of maintenance of the facilities for purification of waste water from the road surfaces and design trainings for staff in charge of the system and structure maintenance,
- design Operational Plan for winter maintenance (salt and other defrosting products), primarily taking care of water and land protection, and then of global environmental issues. Such Plan should include the following:
    - to define adequate location and methods of storing chemicals (salt, fertilizers, pesticides) used for the maintenance of road and surrounding area
    - to minimize the use of such products by adequate road status assessment
- design Operational Plan of urgent measures for various accidents, which should include the following:
    - in case of car accidents involving dangerous substances in form of powder or granules, the traffic should be stopped and problem addressed to a specialized service for the removal of dangerous substances and rehabilitation of the road, while dispersed powder or granules must be removed exclusively manually (packing into a new adequate package, cleaning, vacuuming) without washing out,
    - in case of car accidents involving dangerous liquids, the traffic should be stopped immediately and specialized teams for the damage repair engaged. Spilled liquid should be removed from the road by special sorbents. In case that liquid was spilled outside the profile and contaminated the soil, the rehabilitation is done by its removal.
    - All the substances collected in such manner are treated by special procedures of regeneration or stored to specially designed depots.
- Motorway must be equipped by adequate horizontal and vertical signals including all types of necessary bans and information in the zones of high risk water contamination. Use traffic signals to instruct the traffic participants transporting dangerous substances – by speed reduction, increased attention and no pulling over.
- Ban the outdoor production of vegetables and herbs i.e. plants accumulating these elements by its edible parts, such as lettuce, spinach, forage plants or lavender due to possible negative impact of the route alignment on the nearby farms in terms of heavy metal or organic pollutants contamination.

- Greenhouse production may be organized in the immediate vicinity, however after the concentration of harmful or dangerous substances has been determined. Rehabilitation and decontamination measures should also be in place.
- plant grass and other plants inside the barrier i.e. set up wind protection barriers to reduce the soil erosion caused by wind and dust dispersion from the road to a wider area and, thus, to prevent contamination of nearby farms.
- Avoid use of herbicides for weed elimination on the grass surfaces and mow the grass along the road.
- To minimize the effects of salted land along the road, as a result of winter maintenance, natrium chloride should be replaced by other substances of similar or better defrosting effect. In case that natrium chloride is used for the maintenance of the respective motorway section, accurate timing and accurate quantities are of utmost importance.

2.2. Protection of underground and surface waters

During the construction:

- solve diagonal and longitudinal drainage from the road by ensuring safe evacuation of precipitation both in normal circumstances and in time of accidents (cistern overturning),
- apply very strict measures and requirements for purification of the road waste waters with application of project designs that include closed drainage system, in the parts of the alignment defined as high risk water contamination zones, and this implies purification of waste water to the highest quality level, and carry out the complete drainage of all road waste waters from the area defined as a high risk water contamination zone.
- undertake measures of additional purification of the road waste waters after mechanical purification by grease trap (lagoons, filter fields), in the alignment sections defined as moderate water contamination zones. Determine precise locations of structures subject to additional purification after detailed assessment in the Main Design. Only then, following adequate monitoring, purified waters may be discharged. With such adequate design solutions, waste waters are retained under controlled conditions and only after satisfactory monitoring results may these waters be discharged in the adequate manner.
- Used site waters must be received by safe sewage systems, collected into required tanks and adequately purified (either on the site or on the distant location) before discharging into the recipient. Ecological toilets for the workers must be installed on the site.
- Ban the repair of the machinery and equipment and change of oil in the high risk water contamination zones.
- Provide areas with waterproof bottom for accommodation and repair of the machinery/equipment outside zones defined as high water contamination risk zones, and collect greasy rainfall in this area and purify it by use of sand trap and grease trap before its discharge into the recipient.
- waste water purification plants for purification of the motorway waters must guarantee waterproof quality and must not allow the waste water leakage to to the underground area. Access to the waste water purification plants must be resolved efficiently, also enabling the access to such plants by vehicles (cisterns for

transportation of waste waters or transportation of waste substances from these plants).

- Main Design of the motorway should include the Main Design of drainage of precipitation and waste waters for all the supporting and service facilities. Where possible, waste waters should be directed to the existing sewage systems in the nearby communities. For those locations where this solution is not applicable, waste waters should be directed to its own sewage system with adequate waterproof collection pits, with a complete discharge option. The collection pit should be set up in such location to enable access to pit discharge cisterns.
- Precipitation in these structures should be treated in the same manner as precipitation on the motorway.
- Vertical barriers (protection rails or concrete blocks) must be installed at all locations where the motorway alignment stretches along the water flow or where the motorway passes across the water flows or through the zones of river source sanitary protection, to prevent vehicles driving out of the controlled corridor.
- Conduct construction works in a manner that will not disturb the hydraulic regime of underground water flow and nurture of roots.
- All the excavated land, which is not used immediately in the construction, will be stored at the defined locations in accordance with the Site Management Plan (surplus material depots), protected from the erosion and outside defined high risk water contamination zones.
- Preserve grass coating or keep buffer zone made of grass coating between the road and water entities.
- Use clean material for the embankment only, such as gravel, without soil mixtures or any other material that can be found close to the water flow.
- Materials will not be discharged into the river bed or on the water flow bank, or in the sanitary protection zones, or the high risk water contamination zones.
- There will be no repair of the machinery/equipment or change of oil in the high risk water contamination zones.
- Provide areas with waterproof bottom for accommodation and repair of the machinery/equipment outside zones defined as high water contamination risk zones, and collect greasy rainfall in this area and purify it by use of sand trap and grease trap before its discharge into the recipient.
- Ask for separate water management guidelines and requirements for the locations of construction sites, services, asphalt plant, borrow pits and other structures.
- In case of accidents, urgent intervention will be required according to operational plans of intervention measures for various accident cases.
- To protect the river banks close to the planned motorway alignment, all the activities in this zone will be minimized and avoid all the impacts caused by garbage disposal close to the river banks, and minimize muddiness of the river produced by the construction machines.
- Hydro-technical structures on the road and water flow intersections will be set to maximum flows of 100 year return period for bridges and 50 year return period for culverts.
- For all permanent or temporary water flows, running from the hills and forming their basins, use one of the reliable methods to calculate maximum waters or water incidence range 1/100 and use this as basis to set up the dimensions of water flow below the road to the recipient, and also arrange the basins of those water flows at minimum length of 10m each upstream and downstream from the pin out of the road embankment. For the basin arrangement either concrete or stone coating may be used.

- At the locations where water flow regulation is planned, it is necessary to plan the protection of bottom and slope of the river bed based on the maximum flows of the return period depending on the size of the water flow catchment area.
- Plan the protection of river bed and river banks in the area of bridges, upstream and downstream, in such manner to protect them also from the erosion caused by the towing force of water flow.
- At the point of intersection of the existing protection embankments, some new embankments, which should ensure the same level of protection against the abundant river flows and be joined with the existing embankments.

During the exploitation:

- Monitor and control operating of the closed drainage system in the motorway exploitation phase, and also prepare the Plan on maintenance of waste water purification plants, and predict the noise produced by people working on the maintenance of the structure and the respective plant.
- The Plan on the maintenance of the plants for the collection of communal waste waters (collection pits) from the structures and service facilities along the motorway, those that could not be directed to the existing sewage systems in the nearby communities. This Plan will define the scope and timeframe of the procedures of monitoring, purification and repair of the closed sewage system and waste water purification. The Plan should also define the method of disposal of waste produced by cleaning and maintenance of closed sewage system and structures.
- Prior to their discharge into the recipient, all atmospheric waters in the immediate river zone must be channelled and treated in the sediment tank and separator designed for the applicable quantities of rainfall and properties of residue that needs to be refined.
- Only purified waters may be discharged into the final recipient according to the "Regulations on the conditions for discharge of waste waters into the surface waters", (Official Gazette of the RS no 44/01) and Regulations on waste water treatment and drainage for the cities and communities lacking public sewage system (Official Gazette of the RS no 68/01).
- Discharge and removal of sediments and oil from the sediment tanks and separators will be done by the authorized operators.
- Structures for purification of waste waters from the road must guarantee water proof quality and must not allow leakage of such waste waters to the underground. Access to the purification plants must be done efficiently also enabling access to the vehicles (such as cisterns for transportation of waste waters or waste substances out of these structures).
- The attention should be paid to the rainfall at the intersection of motorway and water flows and land of the agricultural zone no. 1.
- Planned motorway should be equipped by adequate horizontal and vertical signals that will include all sorts of necessary bans and information in the zones of potential water contamination (high risk contamination zones). Traffic signs will warn the traffic participants transporting dangerous substances to reduce the speed, not to overtake the trucks, increase attention, not to pull over.
- Following regulations on technical accuracy of vehicles, use of engine with catalysts, use of unleaded fuel and overall contamination will substantially reduce negative impact on the soil, water and air.

- Comply with requirements defined by water management approval and obtain water management permit.

2.3. For waste management:

- Responsible entity shall prepare the Waste Management Plan in compliance with the Articles 26 and 27 of the Law on waste management (Official Gazette of the RS no. 53/02).
- Set up closed type containers on the sites for the collection of solid communal waste.
- Collect and store used oil products (oils and lubricants) into the metal barrels protected from the weather influence and access by unauthorized persons until such products are taken care of by the authorized operators in charge for this type of waste.
- Collected waste must be classified according to the Waste Catalogue and taken care of by the authorized operators.
- Prevent uncontrolled waste disposal in accordance with the Regulations on waste classification by catalogue (Official Gazette of the RS no. 39/05), which bans non-sanitary formation, disposal and storage as it presents potential source of epidemic diseases and accelerated aerobical decomposition of organic substances along with microbiological contamination of soil may cause contamination of underground waters or potable water of nearby private water supply structures.

2.4. For noise protection

During the construction:

- Construction works producing major noise must be executed in certain time periods and according to applicable regulations and standards.
- Ban use of construction machinery/equipment during the night and restrict such use to working hours and days during the week.
- Construction site workers should use noise protection equipment
- The Contractor must adhere to normal working hours during the day.
- The Contractor must use the equipment which complies with the requirements of European Directive EC/2000/14 concerning the noise emission produced by the equipment used in the open space.
- Should the noise level exceed the allowed limits, ban the use of equipment producing excessive noise and use modern and approved equipment.
- The Investor shall obtain all the required documents on the applicable constructive solutions and noise and vibration protection equipment from the equipment producer or its dealer.

During exploitation:

- Set up protection structures (walls – barriers) for the protection from noise emitted by the motorway traffic.
- Regular maintenance of the noise protection walls/barriers.
- Plant several rows of wide-leaf trees on both sides of the entire motorway alignment, where applicable.
- According to the planned monitoring plan – measure the noise level along the entire alignment to determine the noise emission level and to compare it with the allowed noise limit. In case this limit is exceeded, it is necessary to plan additional measures of noise protection in terms of additional barriers or surfacing.

2.5. For air protection

During the construction:

- In the course of construction, apply modern practice and means for site management and execution of works.
- Plan use of equipment, vehicles and plants classified as the category of minimum impact on the environment according to European standards.
- Mandatory measure of air protection is regular technical inspection of exhaust gases of the plant engines and site vehicles, as well as their regular maintenance and use of fuel containing small amount of sulphur.
- One of the inevitable effects of the construction works (excavation, uploading and unloading of material) is dispersion of suspended particles and resulting air pollution. Therefore it is necessary to take all the required measures to minimize the dispersion of suspended particles in the air.
- While loading the material, dispersion of dust is minimal if the humidity of the material is about 6%. In the dry periods, it is necessary to soak the excavated material to reach the prescribed humidity.
- To prevent dust dispersion caused by truck transportation in local weather conditions, condensation (irrigation) procedure should do.
- Access roads or any other construction roads should be regularly maintained and irrigated. With the construction of access roads, prevent any disturbance of the ambient.
- Specific consumption of water used for irrigation depends on the road surface (for the earth road with wearing sand surface it is 0.50 -1.00 l/min), irrigation is done 2 to 4 times a day.
- No blasting is planned during the construction of the concerned motorway. Should any such need occur, it will be necessary to apply regulations in place for the protection from such works.

During exploitation:

- Construct barriers to protect spread of impurities. The best barriers are wide-leaf trees. If these trees are not sufficient protection or if such trees may not grow in the concerned area, then artificial material should be used for the construction of barriers.
- Sound barriers also prevent spread of dirty substances. However, their efficiency depends on their height.

2.6. For preservation of flora and fauna

During the construction:

- To protect vegetation and to prevent unnecessary destruction of plant resources in this area, it is necessary to limit clearing of vegetation and restrict movement of construction equipment, machinery and means of transport, exclusively to the area approved according to the Main Design.
- To protect the surrounding fauna and to prevent its disturbance, use technically approved construction machinery with minimum level of emission of harmful combustion products, noise and vibrations, and also to make passages and access to

water and feeding places by means of site management and motorway construction in several stages.

- Before the construction begins, plan access roads for machines and plan disposal sites at the locations where minimum harm to plant surface is done. After the construction works are completed, repair the access roads and temporary parking lots for the machinery and equipment and remove extra construction material and waste from wider motorway area.
- Carry out all preliminary works at the time of construction of overpasses and bridges over the rivers of the concerned area to minimize the impacts on the flora. Architectonic solution and construction of bridges must be adjusted to the area in such manner to have minimum penetration into the river banks. Therefore, negative impact on the water flow will also be minimized.
- Special attention should be paid to the execution of works to reduce unnecessary damage to the plants in the wet plant communities at the time of bridge construction, and ban unnecessary cutting of trees (especially poplars and willows) and filling of the surrounding area, which might lead to reduction of wet habitats surfaces and also to potential change of water flow.
- Take all necessary measures of protection (avoid blasting, filling and flattening of the river banks) during the construction of bridges over the rivers in the concerned area.

During exploitation:

- Set up 2 m high fence along the entire motorway alignment in such manner that the lower part of the fence is fixed to the ground and the trench is located on its outer side, where applicable and pay special attention to the construction of fence at the fence joint with viaducts, bridges and tunnels. Make the fence in such manner to prevent the animals running out to the motorway.
- For the purpose of motorway permeability for passage through or passage for small, medium and, especially, large animals, it is necessary to provide passage for animals in terms of construction of Eco ducts of minimum length of 200 m and maximum height of 12 to 13m.
- Build pipe culverts into the motorway embankment of minimum 40cm diameter at each 5 to 10km of motorway.
- All underpasses on uncategorized roads and local roads should be adjusted for passage of wild animals making them 6 to 8m wide and 4m high (since wild animals will avoid any narrow and dark passages, which have the tunnel effect).
- If standard measures for reduction of negative impact of motorway prove to be insufficient, it will be necessary to introduce additional measures such as setting up prismatic mirrors or electric shepherds in front of the fence. In case of sapping or jumping over, it will be necessary to set up three rows of wire over the existing fence.

2.7.Landscape Protection

During construction:

- Developing Landscaping Project which will be the constitutive part of the Main Design where it shall be mandatory to state the analyses of the current situation, ecologically acceptable horticultural design, work dynamics and plant resources.

- Works shall be performed only in the area specified by the project
- Limiting of revitalization and deforestation only to areas where it is necessary
- Following the finalization of construction of all facilities, it shall be compulsory to plan an overall landscape decoration
- Following the removal of material from the site, it is necessary to arrange the site according to the revitalisation project.
- During the bridge construction, it is necessary to take care of bridge shape, aiming to fit it the best to the river landscape and when designing bridge construction to avoid solutions requiring high and massive elements on both bridge and banks hence avoid entering the riverbed or river banks
- From the preliminary design further on, to include landscape engineer as a part of the design and planning team
- Besides bridges, it is also necessary to develop a solution with the key system of measures to fit the facilities in the environment and for the area of junction it is necessary to develop ancillary servicing facilities, road access.
- Tunnel portals to be designed in the way not to stand out from the rocks, and stone lining should be the same as the rock
- Design and form solutions for the ancillary service facilities shall take into consideration natural environment in the architecture of the building, minimum height, type of building material – to use natural stone as much as possible , colour and textures and to use plant species that can be found in the local flora
- It is necessary to design notches instead of kerfs and embankment on the outer side of hill slopes
- The slopes of cuts and embankments should be designed to be as steep as possible to minimize their penetration into the respective field
- To plan panelling of supporting walls and tunnel portals by natural stone, or where it is technically feasible, to build a wall in the so-called drywall technique and to ensure slope by placing wire nets or to use some other techniques including concreting

During exploitation:

- Fitting the overall traffic construction into environment, creating compatibility of highway links and natural environment
- Enriching road area and winter landscape by designing and building forest protection girdles , that is, emission forests which are to be designed and planned for the protection and enabling the safe traffic system as well as for the reduction of all unwanted side effects of heavy traffic i.e. gas emission, dust, soot and heavy metals as well as noise, vibration, and for the protection of existing vegetation which will also have a simultaneous and positive affect to other environmental segments.
- Breaking monotony by landscape design on the highway routs by planting decorative, colourful vegetation, placing panels and billboards
- Applying all necessary measures and maintaining green surfaces in the highway zone and the nearest area in all phases of vegetation

2.8.For health protection

During construction:

- To present negative and positive effects of project implementation, resistance and conflict of interest due to landscape, environment, property and other aspects to local population and interested public and to discuss and evaluate the current situation
- To provide rightful compensation for facilities located in the area planned for the highway and which could not be avoided in the construction process,
- to build suitable infrastructure so as to provide undisturbed communication of local population between residential areas and their properties.

During exploitation:

- To cooperate with local population and help them to adapt to new space and to use potential for development of economic and other activities
- It is the investor's obligation to inform the public in case that there is a negative impact on people's health and environment during the project performance and exploitation of the highway
- In case of health protection of population, it is necessary to follow Health Policy and Strategy in the RS until 2010 as well as recommendations deriving from the Strategy 5 for Monitoring and Reduction of Risk Factors from life and work environment and strengthening of infrastructure and conditions for health protection in the process of developing of spatial plan and other plans, that is, other investment and technical documentation (Official Gazette RS no. 56/02) which is in line with National Action Plan for Health and Environment (NEHAP) for Republika Srpska, adopted by the RS Government (Republika Srpska Official Gazette no. 1/02)

2.9 For protection of the existing infrastructure:

- To regularly maintain and reconstruct local roads used for the needs of highway construction
- To provide alternative roads for access to agricultural lots, facilities and houses on the specific parts of route during construction and after regular road exploitation
- following the construction of highway, it shall be the investor's duty to finalize reconstruction and return to the previous condition all local roads so as to enable undisturbed communication for local population
- Investor shall, upon requests of supervising power distribution company, undertake all necessary activities hence no user will be without electricity.
- The investor shall provide undisturbed water supply during the construction works in places where there is a possible to make coalition with local water supply company and population is using the water supply system,

2.10 For cultural heritage and archaeological findings

For protection of natural and cultural heritage:

- If workers during the construction works find archaeological site which is presumed to have a status of cultural heritage, the investor shall inform the Institute and undertake all measures hence cultural heritage is not damaged.
- the same measure shall be applied in case they find natural heritage which is of geological-paleontological or mineral-petro- geographic origin

2.11. Measures to be undertaken in case of accidents

During construction:

- Investor shall develop an Intervention Plan in case of leakage of fuel and lubricants, oil, chemicals or other poisonous substances. The Plan shall contain the following:
    - reaction teams in case of leakage with clearly defined duties and responsibilities
    - training of team members in case of leakage, prevention of leakage and measures of cleaning and handling poisonous substances
    - establishing reporting process on leakage involving securing information on supervising bodies
    - preservation and maintenance of equipment (absorbing material, absorbing pillows, pups, cans, tanks for collection, bars and ropes) for response in case of leakage and sources for the project zone based on the leakage types which may possibly occur
    - assessment of area and operation with high potential for leakage by documenting characteristics and quantity of oil, fuel and chemicals used in the warehouse, frequency of delivery, handling methods, proximity of surface waters
    - identification of procedures for safe removal of polluted area
    - Protocol for public information in case of serious leakage, and which procedures are to be undertaken in order to avoid health risks and safety of people.

During exploitation:

- In case of accidental oil and petroleum products leakage from cisterns, during the transport on the highway, it is necessary to undertake the following measures of protection:
    - Closing down of damaged cisterns
    - Catching polluted substance leaking out
    - pumping remaining quantities from the damaged cisterns

- designing tranches for collection of pollutants that ran out
- removing surface of collected pollutants as well as replacement of soil and its deposition to suitable site
- pumping out polluted groundwater from the existing wells near places of accidental leakage

In case of leaking of greater quantities of oil and petroleum products and their penetration into soil and groundwater, it is necessary to undertake the following measures of protection:

- Sprinkling the endangered areas with sorbent (used for efficient collection of oil and fat by absorption) which is collected after absorption and processed or burned
- taking the contaminated layers of soil and pouring non contaminated soil

In case of oil and petroleum products burning and fire, extinguishing shall be done by the dry powder and halons, carbon dioxide or foam. Water should not be used for this kind of fires only in case of cooling of other cisterns not affected by fire but are situated near by

In case of accident with vehicles transporting dangerous cargo in powdery or granules condition, the transport shall be hauled and request shall be directed to special service that needs to remove dangerous cargo and do recovery of the road, and spilled out powdery or granulated material shall be removed from the road only by mechanical method (returning to suitable package, cleaning, hovering) without washing

In case of accident with vehicles with liquid dangerous materials, the transport shall be hauled immediately and hired specialized teams for damage repair and substance shall be removed from road by special sorbents and in case the liquid gets out of profile and pollutes the soil, recovery shall be done by removing of the same.

All material collected in this way shall be treated by special procedure of regeneration or shall be deposited on the specially designated places

2.12 Monitoring

During construction:

- to control the method in which material is transported meaning prevention of it leakage
- Monitoring on the construction site
- Noise control on the construction site, near residential buildings once a week
- control of air on or near construction site, twice a month or in accordance with citizens' complaints
- controlling cultural and historical monuments, during construction works

During exploitation:

Monitoring water

Subject of monitoring	**Observed parameter**	**Monitoring site**	**Time and method of monitoring**	**Reason for monitoring of certain parameter**	**Responsibility**
Water quality on the exit from oil and fat separator	Physical chemical and biological parameters (basic indicators for water quality) fat and oil, nitrogen compounds, heavy metals, hydrocarbon, chloride, sulphate	on the exit from separators, fat and oil that will be fitted in as compulsory equipment during drainage	Six time during the calendar year, several samples as pursuant to the Articles 27 and 32 of the Rulebook on the Conditions of Waste Water Drainage into Surface Waters	Determination of quality effluent which is discharged to the final recipient and efficiency of treatment equipment	Contractor /Company specialized for water monitoring, supervision of investors/ecological engineering
water quality of surface waters near highway	Physical chemical and biological parameters (basic indicators of water quality)	from the river Lisnja, Ukrina, Vrbas, Ilova and Bosna	Six times during calendar year, one sample and each waterway	Determination of highway impact on the quality of surface waters and groundwater.	Contractor/ company specialized in water monitoring, supervision of investors/ecological engineering

Air Monitoring

Subject of monitoring	**Observed parameter**	**Monitoring site**	**Time and method of monitoring**	**Reason for monitoring of certain parameter**	**Responsibility**
air quality	oxide concentration,	Measuring shall be	twice during the	to allocate the impact	Contractor / company

	S, C N and particulate matters	done in three measuring spots along teh route near residential places	calendar year, 7 days in continuity	of the highway on the air quality	specialized for air monitoring Supervision of investors/ecological engineering

Noise Monitoring

Subject of monitoring	**Observed parameter**	**Monitoring site**	**Time and method of monitoring**	**Reason for monitoring of certain parameter**	**Responsibility**
Noise emission	Intensity of noise level	Besides residential facilities nearest to the highway where there is no protection from noise and besides residential facilities protected from the noise	Four times during the calendar year, three days, fifteen minutes each and during the night twice , fifteen minutes measuring of medium equivalent level of noise	To determine the impact of highway on the level of communal noise and to evaluate efficiency of new facilities on protection forum noise and foreseen possible additional protection on places where there are such facilities	Contractor / company specialized in noise monitoring. Supervision of investors/ecological engineering

Earth Monitoring

Subject of monitoring	**Observed parameter**	**Monitoring site**	**Time and method of monitoring**	**Reason for monitoring of certain parameter**	**Responsibility**
Earth quality	Concentration of heavy metals in the soil	Agricultural land near highway on five sites equally	taking samples and analyses once a year	to determine the impact of highway on earth	Contractor / company specialized in earth monitoring. Supervision of

		distributed along the highway route		quality	investors/ecological engineering

Flora and Fauna Monitoring

Subject of monitoring	**Observed parameter**	**Monitoring site**	**Time and method of monitoring**	**Reason for monitoring of certain parameter**	**Responsibility**
Flora	Following the finalization of construction to determine the condition of flora along the route			to determine the impact of highway construction to flora condition	Contractor / company specialized in ecological monitoring. Supervision of investors/ecological engineering
Fauna	During exploitation to monitor transfer of medium and mammal animals across highway by infrared sensors				
Game and hunting	During exploitation to monitor frequency and distribution of injured or dead animals				

3. Public Company “REPUBLIC OF SRPSKA MOTORWAYS” Banja Luka shall be obliged to fulfil other measures as determined in the final version of the Environment Impact Study.

4. Environment Impact Study for the Banja Luku-Doboj Motorway Construction Project , final approved version was completed in January 2011 and shall be the constituent part of this Decision.
5. Decision on Environment Impact Study Approval seizes to be valid if the Project Entity does not obtain construction permit within three years from the day of decision receiving
6. Public Company "REPUBLIC OF SRPSKA MOTORWAYS" Banja Luka shall be obliged to submit to the Ministry a request for ecology permit for construction of the project Banja Luka-Doboj, pursuant to the Article 80 of the Law on Environment Protection and Article 2 of Regulations on the structures that may be constructed and become operational provided they have ecology permit ("Republika Srpska Official Gazette no. 7/06 and 21/10).

Explanation

Public Company "REPUBLIC OF SRPSKA MOTORWAYS" Banja Luka delivered Request on the 4th of June 2010 to the Ministry as well as the draft of the Environment Impact Study for the project of Banja Luka-Doboj Motorway Construction pursuant to the Decision on determining of duty to implement impact assessment and development of Environment Impact Study no. 16-96-307/08 from 2 March 2009. Environment Impact Study has been developed in accordance with the provision of the Law on Environment Protection and bylaws pursuant to this Law and "TEZ" Banja Luka Company shall represent Contractor, as authorized by the Ministry.
Delivered documentation was available to the public in the premises of municipality Laktasi, Prnjavor, Derventa and Doboj from 11th of June 2010 until 17th of September 2010 in Doboj until 24th of September in Prnjavor , 1st of October 2010 in Derventa, and 15th of October in Laktasi. Pursuant to the Article 64 of the Law, Environment Impact Study for the motorway Banja Luka-Doboj with the copy of request delivered to the following institutions for the purpose of providing their opinion:

1. Republic of Srpska Ministry of Health and Social Welfare
2. Republic of Srpska Ministry of Agriculture, Forestry and Water Management
3. Republic Institute for Preservation of Cultural and Historical Heritage

The opinions delivered in the preliminary study procedure represent the part of the Decision on Determining Obligations for the impact assessment and development of the Environment Impact Study. The opinions delivered in the procedure of the Study approval represent a component of the Evaluation containing objections of stakeholders and preliminary professional viewpoint of the Investor.
Information on the submitted request for approval of the Impact Study, time and place for the public hearing and place to enable access to documents was published in the daily journal "NEZAVISNE NOVINE" on the 14th o f July 2010.
Project Entity organized the public hearing on the draft document of Environment Impact Study for the Banja Luka –Doboj Motorway Construction Project on 12th of August 2010 in Derventa, 12th o f August 2010 in Doboj, 16th of August 2010 in Laktasi, 17th of August in Prnjavor and representatives of the ministry participated in the last public hearing in Prnjavor.
Participants to the public hearing were introduced to the intention by the representatives of TEZ Banja Luka, and minutes of the meeting were prepared and timely delivered to the Ministry.
The Ministry made the Evaluation pursuant to the Article 66 of the Law on Environment Protection on the objections of stakeholders and preliminary professional viewpoint of the

Project Entity on 29th of October 2010 by which it was ordered to deliver the amended version of Study in accordance with the remarks from the Ministry of Health and Social Welfare, Republic Institute for Preservation of Cultural and Historical Heritage, Ministry of Agriculture, Forestry and Water Economy and the Minutes from the public hearing in Laktasi, Prnjavor, Derventa and Doboj.

Following the receipt of the amended Environment Impact Study on 7th of December and pursuant to the Article 67 of the Law on Environment Protection, and by the Decision of the Ministry no 15-96-135/10 from the 10th of December 2010 the Institute IG Banja Luka was nominated by the Ministry to make the audit of the Environment Impact Study for the project Banja Luka-Doboj Motorway Construction. The report on audit was delivered on 30th of December 2010 by which it was decided that the Study may be acceptable and all remarks that are relevant for the project were taken into consideration and accepted and it was confirmed that the Study contained data from the Article 67, Item 2 of the Law.

Project Entity delivered the final version of Study pursuant to the remarks and instructions from the report on audit, on 23rd of February 2011. The Environment Impact Study for the Banja Luka-Doboj motorway construction Project represents the component of the Decision on the Study Approval.

Environment Impact Study audit fee was charged in accordance with the Rulebook on committees for professional exams and issuing procedures for permits for city planning documentation, technical documentation and construction to natural persons, enterprises and other legal entities and committees for the area of environment protection.

Having in mind the afore-mentioned and pursuant to the Article 68 of the Law on Environment Protection the Ministry decided as quoted in the wording.

This decision is in the administrative procedure and no appeal shall be allowed but administrative procedure by filing a lawsuit with the District Court in Banja Luka within 30 days from the day of receipt of this decision. The appeal shall be filed in two copies with stamp duty of KM 200 paid to the Court or sent by registered mail.

This original decision or its transcript shall be enclosed to the appeal.

Minister
Srebrenka Golic
S T A M P
S I G N A T U R E

Copy:

1. Title
2. Republic of Srpska Ministry of Health and Social Welfare
3. Republic of Srpska Ministry of Agriculture, Forestry and Water Management
4. Republic Institute for Preservation of Cultural and Historical Heritage
5. Laktasi Municipality
6. Prnjavor Municipality
7. Derventa Municipality
8. Doboj Municipality
9. Records
10. a/a