**REPUBLIC OF CROATIA**

MINISTRY OF ENVIRONMENTAL PROTECTION,

PHYSICAL PLANNING AND CONSTRUCTION

10000 Zagreb, Ulica Republike Austrije 20

Phone: 01/ 37 82 444 Fax: 01/ 37 72 822

Class: UP/I 351-03/06-02/32

Reg. No.: 531-08-3-1-AK-07-12

Zagreb, 02 January 2007

Pursuant to Article 30 of the Environmental Protection Act (Official Gazette 82/94 and 128/99) in connection with Article 18, paragraph 3 of the Ordinance on Environmental Impact Assesment (Official Gazette 59/00, 136/04 and 85/06) at request of the company Hrvatske vode for the purpose of environmental impact assessment, the Ministry of Environmental Protection, Physical Planning and Construction hereby issues the following

**DECISION**

1. ***The planned project –retarding basin Ogulin******– is acceptable for the environment with the implementation of the environmental protection measures and the environmental monitoring program.***
2. **ENVIRONMENTAL PROTECTION MEASURES**

**A.1. Environmental protection measures prior to beginning of construction**

A.1.1 Record “baseline” environment status.

A.1.2. Conduct required site investigations necessary for the beginning of construction, so that all problems detected in the method of foundation works or construction can be adequately resolved in the designs.

A.1.3. Start land acquisition procedure as well as change of land use procedure where planned structures will be constructed.

A.1.4. In order to allow free flow of water through Ogulinska Dobra channel, construct dam bottom outlet for undistrubed water discharge.

**A.2. Environmental protection measures during construction planning and during construction**

**General protection measures**

A.2.1 Set up appropriate civil engineering, geotechnical and water management supervision based on proscribed performance controls and controls of the quality of placed material.

A.2.2. Line parts of bottom outlet concrete walls with natural stone on both sides.

A.2.3. Provide:

* Adequate water management supervision over execution of works,
* Supervision over proscribed performance controls and controls of quality of placed material,
* Supervision over machinery servicing,
* Supervision over storage of fuel and lubricants,
* Supervision over supply and provision of agents to neutrilize fuel spills,
* Supervision over excavated, stockpiled and unplaced material.

**Noise protection measures**

A.2.4. Use machines in good working order with minimum noise emission.

A.2.5. Conduct works during the day.

**Air protection measures**

A.2.6. Use machines whose exhaust pipe emissions are within legally proscribed limits.

A.2.7. During excavation and transport of backfill material in the dry period, spray roads with water on a daily basis in order to reduce dust emission and transport of particles by wind.

**Flora and fauna protection measures**

A.2.8. During preparation for the construction of the retarding dam select corridors for the movement of machinery beforehand in order to reduce negative impact on habitats. Do not bring backfilling material to the site or elevate surrounding terrain, minimize the intrusion of machinery into terrain whose plan dimensions are not included in the space of the retarding basin structures.

A.2.9. Using technical and biological measures enable the growth of natural vegetation in places where project structures are located. In places where natural succession of the area under temporary impact of the intervention is not possible, plant autochthonous plant species in order to restore the area into the state approximately resembling the state prior to works.

A.2.10. Remove trees and bushes if necessary from the project area outside of the bird nesting season.

A.2.11. Plant autochthonous hedges around the retarding basin area, but above the levels of maximum retarding water levels, enable bird nesting and in the retarding basin area establish conditions for original and new habitats.

A.2.12. Design retarding structures so that they allow free movement of fish in both directions of the retarding dam on the Dobra River.

**Forest protection measures**

A.2.13. Plan works in order to minimize disturbance of natural situation in the area of forest ecosystems.

A.2.14. Keep account on development (improvement) of retarding basin contact zone with surrounding terrain in order to prevent trees from falling down in newly formed edges as well as landslides.

A.2.15. Possible damage on forest or agricultural lands which will not be purchased/compensated to their owners.

A.2.16. Handle flammable material and open flames with care.

**Landscape protection measures**

A.2.17. Prepare a landscape design.

A.2.18. Use only autochthonous vegetation for improvement and restoration of the project area.

**Protection measures for disposal of excess material**

A.2.19. Design documents have to foresee the disposal of excess material from earth excavations at disposal sites forseen for this purpose. Material is not to be disposed of or spread in the vicinity of the intervention.

**Protection measures of traffic system and infrastructural facilities**

A.2.20. Construct planned alternative roads because of possible interruptions of traffic on unpaved roads passing through watercourse valley.

A.2.21. Provide adequate access to local roads in order to ensure safe traffic.

A.2.22. Repair damages to existing roads that will occur during construction upon completion of construction works.

A.2.23. Relocate the transformer station on Mirić selo near the bridge on the Ogulinska Dobra River.

**Water protection measures**

A.2.24. Avoid rectilinear watercourse regulation unless otherwise impossible because of technical reasons.

A.2.25. Relocate existing water level recording stations Turkovići and Brestovac outside retarding basin impact area. Set up stations in a new location on time for the purpose of transferring information from the existing station. One-year monitoring on both stations is proposed.

**A.3. Environmental protection measures during use**

**Flora and fauna protection measures**

A.3.1. Perform occasional and necessary removal of trees and bushes outside the bird-nesting season.

**Forest protection measures**

A.3.2. Ban every uncontrolled use of fire and open flames in the vicinity of forests.

**Soil protection measures**

A.3.3. Regularly clean and maintain retarding area, and transport cleared deposit to disposal site foreseen for this purpose.

A.3.4. Prevent the degradation of the retarding basin’s bank area, maintain the retarding basin and protect it from erosion by plating grass, bushes and trees.

**Landscape protection measures**

A.3.5. Maintain the landscape so as to offer desired vistas onto the future retarding area.

**A.4** **Measures to prevent and mitigate the consequences of potential ecological accidents**

A.4.1. Prevent dangerous liquids from being discharged into water or into the soil.

A.4.2. During preparation of design documents prepare a Dam Demolition Design which has to include the description of all measures for alarming and informing the population as well as corridors with intensity of damages by flood wave.

1. **ENVIRONMENTAL MONITORING PROGRAMME**

Special monitoring on the impact of foressen interventions on the environment is not envisaged since no significant impacts are expected. Environmental monitoring regularly conducted by Hrvatske vode is sufficient as part of regular and emergency maintenance of watercourses and structures on watercourses, Hrvatske šume within the framework of their regular monitoring of forest vegetation and life as well as technical observation of dams in accordance with legal obligation.

1. **The developer, Hrvatske vode, shall ensure the implementation of established environmental protection measures and implementation of activities according to the environmental monitoring programme.**

**Justification**

Hrvatske vode from Zagreb, Ulica grada Vukovara 220, submitted on 28 February 2006 a request for an environmental impact assessment (EIA) procedure for construction of the Ogulin retarding basin accompanied by the Environmental Impact Study (EIS) prepared by the company Vodoprivredno-projektni biro d.d. Zagreb in October 2005 and amended in July 2006.

The Ministry of Environmental Protection, Physical Planning and Construction issued a Decision (Class: UP/I-351-03/06-02/00032; Reg. No.: 531-08-3-1-AK-06-5) on 19 April 2006 on the appointment of the following members of the Commission for assessment of the impact of the subject intervention (Commission members): Franka Odak; Milan Ivezić, Ministry of Agriculture, Forestry and Water Management, Water Management Directorate; Renato Buljan, Croatian Geological Institute; Marjana

Gajić Čapka, Meteorological and Hydrological Service; Ksenija Cesarec, Meteorological and Hydrological Service; Natalija Čengić Zglavnik, Ministry of Culture, Nature Protection Directorate; Nenad Vukadinović, Hrvatske šume; Vjeruška Stanišić, Physical Planning and Environmental Protection Institute of the Karlovac County; Slavica Zubčić, Town of Ogulin; Ana Kovačević, Ministry of Environmental Protection, Physical Planning and Construction, Environmental Protection Directorate, Commission Secretary.

The Commission held two sessions. During its first session held on 24 May 2006 in Ogulin they established that the Study was complete, profesionally founded and prepared in accordance with regulations, however that it also contained minor deficiencies that could be corrected within legally proscribed deadlines. The Commission requested the developper to make necessary adjustments in the Study in accordance with comments provided by Commission members. During the same session the Commission decided to send the EIS to public inspection. Public inspection was conducted in the Town of Ogulin in duration of 14 days, from 29 August until 12 September 2006. The Physical Planning and Environmental Protection Institute of the Karlovac County coordinated the public inspection.

During the public inspection opinions, comments and proposals provided by Jožefa Hudorović from Ogulinski Hreljin, Anton Stipetić from Ogulinski Hreljin, Dubravka Cindrić from Ogulin, Zvonko Brozović from Ogulinski Hreljin, Slaven Kostelić from Ogulinski Hreljin and Zdravko Vuković from Ogulinski Hreljin were entered into the record of opinions, comments and proposals. These comments were related to the issue of where certain real estates would be located in relation to the retarding area as well as the possibility of selling real estate, possibility of constructing a local dike, the issue of backfilling underground openings with waste and construction material, access to agricultural surfaces, as well as the status of the Kostelić Mill. The Study’s author replied that the possibility of real estate sale, possibility of constructing a local dike, backfilling underground openings with waste and construction metarial would be defined in more detail in subsequent design documents. Road ramps will be perfomed in all locations where dike route will intersect with roads and paths so as to allow communication between housing objects, existing paths and agricultural surfaces. With regard to the status of the Kostelić Mill, the Ministry of Culture, Cultural Heritage Protection Directorate, Conservation Department in Karlovac, in letter dated 01 December 2006 (Class: 612-08/06-01/3085, Reg. No.: 532-04-12/4-06/2), confirmed that the Kostelić Mill is not a protected cultural heritage site.

At the second meeting of the Commission, held on 18 December 2006, the Commission issued a Conclusion on the environmental acceptability of this project with the implementation of environmental protection measures and environmental monitoring programme.

The acceptability of the project was justified as follows:

“Drainage systems, natural cave system Đula-Medvednica as well as artificial storage reservoir Bukovnik for Hydro Power Plant Gojak do not provide the Town of Ogulin with protection against 100-year high waters. Hydraulic calculations have demonstrated that in the context of adopted model assumptions, the proposed retarding structure can fulfil requested requirements for the regulation of the water regime of the Ogulinska Dobra high waters for the purpose of flood protection of the Town of Ogulin. The proposed retarding dam belongs to the category of high dams. Based on conducted analyses of topographic characteristics of the treated area using available maps and based on field surveys, the most suitable location for performing the retarding basin turned out to be the valley of the Ogulinska Dobra River, upstream of the settlement of Turkovići and downstream of the place where the Vitunjčica watercourse joins the Dobra. The location with the most favorable technical conditions on site is the location in the profile of the Ogulinska Dobra River in km 7+350, where a natural ledge on the left riverbank at 350.0 m asl will be used for dam construction to the maximum possible extent. On the right riverbank, the dam will join a high ledge at the current Turkovići-Vitunj road at 341.50 m asl, north of the settlement of Turkovići. The profile of the future dam is about 2.5 km in a straight line from the westernmost parts of the town of Ogulin. The planned intervention for the protection of the Town of Ogulin against high waters collides with existing infrastructural systems and certain technical measures for spatial protection and development will have to be foreseen.”

The Ministry of Environmental Protection, Physical Planning and Construction has assessed that the proposed environmental protection measures and the environmental monitoring programme for the intervention in question comply with acts and other regulations, standards and measures that reduce adverse impact to the least possible extent and that achieve maximum possible preservation of environmental quality. Decision was made pursuant to Article 30 paragraph 2 of the Environmental Protection Act (Official Gazette no. 82/94 and 128/99) as stated in the disposition.

**LEGAL REMEDY:**

There may be no complaint against this Decision, but an administrative dispute may be initiated. The administrative dispute is initiated by filing a claim before the Administrative Court of the Republic of Croatia in person or by post within 30 days from the receipt of this decision.

An administrative fee for this Decision in the form of government stamps in the amount of HRK 50.00 has been paid according to Tariff Class 2 specified in the Administrative Fees Act (OG 8/96, 77/96, 95/97, 131/97, 68/98, 66/99, 145/99, 30/00, 163/03, 17/04, 150/05).

STATE SECRETARY

Nikola Ružinski

To be delivered to:

1. Hrvatske vode, Ulica grada Vukovara 220, Zagreb
2. Karlovac County, County Institute for Spatial Planning and Environmental Protection, Križanićeva 11, Karlovac
3. Ministry of Environmental Protection, Physical Planning and Construction, Inspection Affairs Directorate
4. Ministry of Environmental Protection, Physical Planning and Construction, Spatial Planning Directorate