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ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

COMBINED CYCLE GAS TURBINE (410 MW CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION (GRES)

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TABLE OF CONTENTS

INTRODUCTION 4

1. PROJECT DESCRIPTION 5

 1.1 General information on the construction plan 5

 1.2 Object location and affected zone 5

 1.3. Environmental and social policies 7

 1.3.1. Social and economic conditions 7

 1.3.2. Social policy statement “OGK-5” 8

 1.3.3. Ecological policy statement 8

 1.3.4. Charity and Sponsorship 10

2. IMPLEMENTATION STAGES OF THE PROJECT 11

 2.1. Construction stage 11

 2.1.2. Construction work 13

 2.1.3. Starting-up and adjustment works 13

 2.1.4. Labour force 13

 2.1.5. Roads and railways 14

 2.2. Operation phase 15

 2.2.1. Production 15

 2.2.2. Equipment 15

 2.2.3. Labour force 16

 2.3. Stage of closing and liquidation 16

3. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN 16

 3.1. Background 16

 3.2. System of environmental and social management 17

 3.3. Roles and responsibility 18

 3.3.1. Construction stage 18

 3.3.2. Operation phase 18

 3.3.3. Liquidation stage 18

 3.4. Environmental and social impacts and assessment of their significance 18

 3.5. Environmental and social management plan (ESMP) 20

 3.5.1. Construction stage 21

 3.5.2. Operation stage 31

 3.5.3. Liquidation stage 31

LIST OF ABBREVIATIONS

Nevinnomyssk GRES – Nevinnomyssk State District Power Station

CCGP – combined cycle gas turbine power plant

EBRD –The European Bank for Reconstruction and Development

EIA –Environmental Impact Assessment

OT - labour protection

PB - industrial safety

OOS - environment protection

CD - civil defence

ES - emergency situations

STPR - Service of technical rearmament and reconstruction

UIT - IT Department

PTO - Production and Technical Department

SIZ - personal protective equipment

INTRODUCTION

The plan of environmental and social issues management (ESMP) is developed with the purpose of liquidation of possible adverse environmental and social consequences, their neutralization or reduction to comprehensible level at construction, operation and liquidation of CCGT-410 at the territory of the Branch “Nevinnomyssk GRES” OAO OGK-5 (further - CCGT-410).

The environmental management plan has been made according to Nature protection and social policy of the European Bank of Reconstruction and Development (Environment and Social Plan, 2008), the Operational Management of the World Bank (OP 4.01 Annex C, Environmental Management Plan, 1999) both the Policy and Standards of activity on social and environmental stability of the International Financial Corporation (Performance Standards on Social and Environmental Sustainability, April 30, 2006).

Within the limits of work the environmental activity impact of CCGT-410 was identified and ranged by significance, technical and organizational actions on reduction/prevention of negative impact were offered, persons responsible for introduction and monitoring of performance efficiency of the specified actions were designated. At development of ESMP the important environmental and social impacts of CCGT-410 revealed by EIA were used.

Programs and actions included into the ESMP are aimed to prevention and decrease of negative impact of construction and operation of CCGT-410. The Branch “Nevinnomyssk GRES” OAO OGK-5 is financially responsible for implementation of nature protection and socially-charitable programs.

Now, at the enterprises of OAO OGK-5 a system of environmental management is being implemented according to which the activity connected with environmental impact is regulated and defined in the corresponding documentation.

According to principles of the Company social responsibility annual Reports on corporate stability and social partnership are issued. General objective of the document is to inform the wide audience on principles of social policy of the Company, reference points in the field of sustainable development and the activity results in economic, environmental and social areas.

Practice of regular social corporate reporting includes:

- carrying out of regular public hearings with participation of all stakeholders of the Company,
 - publication of annual social reports,
 - improvement of reporting considering best international practice.
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1. PROJECT DESCRIPTION

1.1 General information on the construction plan

The project of the NGRES development implies construction of the main CCGT building on the territory of the power plant. The main building will contain the steam-gas double-shaft power-unit equipment CCGT-410 with the capacity of 400-450 MW.

Main and reserve fuel type – natural gas.

The project provides all the necessary components and technical means for the 400-450 MW CCGT installation beginning from the preparation level with respect to the NGRES -2 residual enterprise and nitrogen-oxygen station location at the near distance, as well as presence of water supply communications in the territory.

It is planned to use all the existing communications at the maximum rate.

The steam-gas unit is to be installed on the basis of the gas-turbine unit with the efficiency coefficient equal to the value of 57%.

After the CCGT-410 is put into operation it is planned to perform the withdrawal from production of about 310 MW of the exhausted equipment. The increase in the established capacity of station, with CCGT-410 putting into operation, will not result in increase in a limit of gas for power station as a whole, due to a retirement from service of the old equipment.

1.2 Object location and affected zone

Nevinnomyssk State District Power Station (NGRES) is located on the north-eastern part of Nevinnomyssk town, on the right bank of Kuban River. The nearest big city is Stavropol, the administrative centre of the Stavropol Territory, lying 50 km northeast of Nevinnomyssk. OAO Nevinnomyssky Azot, one of the prime customers for station's heat power, is situated in the immediate vicinity of the station. Water is supplied to the power station from the Bolshoy Stavropolsky and Nevinnomyssky Canals, taking water from Kuban River of Nevinnomyssk town.

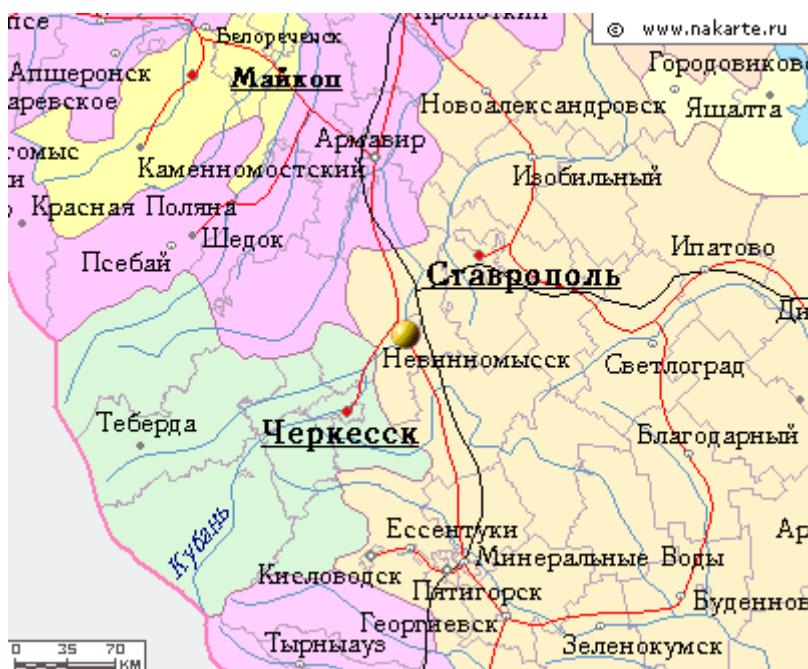


Рис. 1-1. Расположение г. Невинномыска

A 400-450 MW combined-cycle gas plant (CCGT) may be placed at the Nevinnomyssk DSPS in the area near the existing warehouse facilities and construction site of the station. The total area of the territory available for the construction of the combined-cycle plant amounts to approx. 2.1 hectares. This area may be considered as two plots, situated on the eastern and northern sides of the CCGP-170 facility, respectively.

The existing NGRES site is connected with the external railway network. The nearest railway station is Nevinnomyssk SKZD. Destination from the switching station to the Branch territory of NGRES is 4 km.

The existing entrances to NGRES provide connection to the external network of highways and are preserved.

At construction and installation of the new main building submission of cargoes and equipment including heavy and lengthy will be carried out by means of motor and railway transportation.

Network of highways in the territory of the industrial site of NGRES is determined by technological process, industrial and fire-prevention requirements. All designed buildings and constructions are supposed to have highways and sites to buildings which represent accesses at the same time.

According to SanPin 2.2.1/2.1.1.1200-03 normative sanitary-protective zone of the enterprise makes 500 m.

The nearest residential construction is to the south in a distance of 680 m from the enterprise border.

Calculations of dispersion made in EIA section have shown that the maximum concentration on border of 500 m (normative size SZZ) and in residential construction will not exceed sanitary norms. Distinction in the maximal ground concentration before and after reconstruction will make centesimal of maximum concentration limit. Contribution of Nevinnomysk GRES will make no more than 0,3 maximum concentration limits mp.

1.3. Environmental and social policies

1.3.1. Social and economic conditions

Nevinnomysk city – is one of the most important industrial centers of Stavropolsky Krai. Production of the city chemical industry is delivered to many regions of Russia and for export. Specific economic parameters of the city compared to parameters of Krai make 20 % on volume of the production made by industry.

Transportation role of Nevinnomysk is also important – the North-Caucasus railway and the federal highway “Caucasus” pass through it.

The main town-forming enterprise is OAO “Nevinnomysk Azot” producing fertilizers. The given enterprise is one of the main consumers of thermal energy from Nevinnomysk GRES (NGRES) and it closely adjoins it.

Other significant enterprises of the city are:

- OAO “Arnest” – the largest Russian manufacturer of aerosol production
- Plant of measuring devices - the ZIP "Energomera"
- OAO “ZHELEZOBETON”.

Population of the city for 1 January, 2007 has made 129,1 thousand persons. Density of population is 1613.8 p/sq.m..

Russians are dominating on ethnic structure (90 % of residents).

Within the limits of the city territory there are no representatives of native minorities, places of their compact residing and territories of traditional nature management which would demand special attention during implementation of the planned activity.

According to the All-Russia population census (2002) around 61 thousand persons received the income of labour activity. Other part of able-bodied population received the income of various allowances, grants, disability pensions. At the moment of the

research 720 persons received unemployment benefits. In 2007 the number of officially registered unemployed has made 1002 persons.

1.3.2. Social policy statement “OGK-5”

Taking into account its social obligations, the OAO “OGK-5” performs active social policy both inside the Company and in relation to the environment. The inner social policy is based on the principles of social partnership and provides the complex of the actions aimed to:

- Acknowledge the workers’ rights (listed in the Labor Code of the Russian Federation);
- Establish the honorable working conditions for each person;
- Provide social safety to all staff members;
- Establish effective and fair systems of voluntary medical insurance and non-governmental pension coverage;
- Establish the corporate culture and strengthen corporate values;
- Development and career advancement of the personnel;
- Perform personnel dialogues and encouragement to participate in decision making;
- Encourage the personnel for initiative rational individual project work;
- Establish the Company’s image considering the Company to be the best employer.

The Company’s external social policy is based on the principles of corporate citizenship and primarily aimed to perform beneficent and sponsorship helps to people and other enterprises within the region. The company is open for partnership with the regional administrative bodies in frames of beneficence, charity and sponsorship activities and ready to take part in making decisions on the existing regional problems. In its charity and sponsorship activities the company does its best to make its work more targeted and full. It also constantly develops and widens directions of its activities and projects.

1.3.3. Ecological policy statement

Constant targeted work in the field of the environment preservation and ecological safety are necessary aspects in the activity of modern energy companies. Therefore, the OAO “OGK-5” gives the leading position to the questions of ecology leaving behind all the other significant questions. The company’s ecological policy is a valuable direction in the activity of the company’s management and personnel.

The OAO “OGK-5” supposes that responsible care of the questions of the environment preservation (in addition to stimulation of increase in capitalizing and reputation of the

company) lets the business do its duty to the state and society. Therefore, the company's activity is performed under the following conditions:

- Following the standards and requirements of the environmental legislation.
- Acknowledging the ecological priority during the decision making in all spheres of the company's activities.
- Maximal decrease in ecological risks in the industrial activity, transporting, energy distribution.
- Comprehensive rational approach in the usage of natural energy resources.
- Effective interrelation with state and social ecology establishments.
- Openness and availability of the ecological information (clarity of the company's ecological activities),
- Preparation and realization of regulations and programs for the environment protection.

The basic documents of the ecological policy of the OAO "OGK-5" are represented by the "Ecological policy of the RAO UES of Russia" and the "Conception of realizing the ecological policy of the RAO UES of Russia" approved by the RAO UES of Russia.

The company also takes part in discharging of duties prescribed by important international documents (signed by Russia), among which are:

- The UN Convention about trans-border air contamination on large distances, and protocols to it;
- Frame UN convention about the climate changing;
- Kyoto protocol;
- The G-8 action plan;
- Climate changing, ecologically clear energetic and constant development.

With the purpose to analyze the results of the environment protection activities and effective ecological policy planning the company annually makes information-analytic reports in different directions of the ecological activities:

- Reporting and information-analytic materials on the Company's ecological activities;
 - Information-analytic report on the new environment protection equipment implementation;
 - Information-analytic report on realization of projects aimed to decrease the emissions of greenhouse-gases;
 - Information-analytic report on the state of the environmental control within the Company;
 - Annual environment protection activities analysis.
-

In 2006 the OAO "OGK-5" OAO RAO "UES of Russia" and the ERD Bank signed the plan of measures for the environment protection which, alongside with other documents, regulates the Company's activities in the direction of decrease in harmful impact on the environment.

According to this plan the OAO "OGK-5" is obliged to perform the following measures:

- Implementation of the corporate system of control over the environment protection, industrial safety and labor protection (EMS).
- Estimation of the impact of the Company's new projects on the environment.
- Implementation of modern technologies during the realizing of new projects and stations reconstruction.
- Constant emission control.
- Working out the programs of decreasing the emissions level of the nitrous oxide down to the limits set in Russia and Europe.
- Implementation of technologies decreasing emissions of the sulphur dioxide.
- Working out the program of safe utilizing wastes generated during the process of the residue burning.
- Estimating the ecological risks related to probable contamination of under-waters, surface waters with wastes generated during the process of the residue burning.

Working out the program for wastes and repugnant chemicals control.

1.3.4. Charity and Sponsorship

OGK-5 treats charity and sponsorship as one of most important aspects of the Company's social activities. Active involvement in resolving problems in the regions of its presence (the Southern Federal Okrug, Central Russia, including Moscow, Moscow and Tver Oblasts and the Urals), setting up funds for targeted aid to the underprivileged, and participation in special charitable projects are principal charitable and sponsorship activities of the Company.

OGK-5 is not only a good faith tax payer it has also assumed the obligations of a corporate citizen. For the Company, it means readiness to voluntary and timely respond to the needs of the regions of its presence, to take part in various regional programs for improvement of the population living standards and provision of public services and amenities, as well as readiness to implement projects jointly with local administrations (and other regional authorities).

The Company's charitable and sponsorship activities are for the benefit of the following institutions and individuals:

- educational institutions;
-

- children's and teenage amateur
- talent groups;
- health care facilities;
- veteran organizations;
- the sick and disabled;
- sports organizations;
- religious organizations;
- public and social centres; ,
- trade unions;
- museums; and
- cultural and art centres.

In 2006, the Company provided donations to charitable foundations in the regions of its presence, in particular, Reftinskie Energetiki XXI, Nevinnomysk 21 Century and Konakovo 21 Century.

To optimize targeted charitable and sponsorship activities funds will be split into packages in 2007:

- Energy to the Future assistance to preschool and educational institutions and sports facilities (and other assistance to children and teenagers);
- Energy to Wisdom assistance to veterans and retirees; and
- Energy of Hope provision of financial aid to health care facilities, sports facilities and children who need medical and social care.

2. IMPLEMENTATION STAGES OF THE PROJECT

2.1. Construction stage

Construction of the new object will be carried out by the Consortium consisting of ENEL Produzione S.p.a. (Italy) and ZAO "Atomstryexport" (Russia).

ENEL Produzione S.p.a. is the largest power company of Italy and the third largest power supplying company registered in Europe on market capitalization. Registered at Milan and New York stock exchanges in 1999 ENEL has the greatest number of shareholders in comparison with any European company - approximately 2,3 million. Its market capitalization makes approximately 50 billion Euros in the current prices.

ENEL Produzione S.p.a. produces and sells electricity mainly in Europe, Northern and Latin America. In the field of power 50 776 MW of generating capacity belongs to ENEL, and it has 32 million buyers of electricity.

Outside Italy ENEL Produzione S.p.a. worked as the main contractor at construction of thermal power stations in Cambodia, the Great Britain, Saudi Arabia, the Incorporated Arab Emirates, Oman, and Qatar.

In view of projects which have been implemented for the past of 10 years, ENEL Produzione S.p.a. has established 19 200 MW of generating capacity.

Implementing each project, ENEL not only solved tasks concerning cost and schedule but also observed requirements of quality standards, used the best practice and technology available at the market to meet the requirements of Customers.

Work with these projects has allowed ENEL Produzione S.p.a. gaining large experience and knowledge on construction of new objects of power and prevention of problems usually connected with projects of modification of stations.

ZAO "Atomstroyexport" (ZAO "ASE") was established in 1998 under the decision of the Ministry of the Russian Federation on atomic energy with the purpose of development of production export of the Russian manufacturers for the objects of atomic engineering abroad.

At participation of ZAO "Atomstroyexport" over 30 projects of APP power unit construction abroad were implemented with the total installed capacity of 20 000 MW.

The main activity direction of ZAO "Atomstroyexport" is to implement projects "on a turn-key basis" for development of hi-tech projects in the field of atomic engineering.

Alongside with primary activity development ZAO "Atomstroyexport" takes part in implementation of the projects of developing power market of Russia, regarding construction of new power stations on the basis of blocks with CCGT and also incorporates the efforts and competence with global suppliers of the general equipment (Siemens, CMI, etc.), in particular, at implementation of the Project on expansion of Nevinnomysk GRES with construction of the power unit with condensing CCGT-410 MW.

Thus, the Consortium being an association of the companies complementing each other with a wide construction experience of power objects will allow realizing modern and, in many respects, unique Project on expansion of Nevinnomysk GRES with construction of the power unit with condensing CCGT-410 MW.

The total duration of construction works will make 33,5 months.

2.1.1. Preliminary work

Preparatory stage works are connected with resurfacing (dismantling) of separate constructions, communications and motorways being in the zone of new construction, in opinion of the Contractor. Lay-out of the surface of construction site is developed in

view of the earlier planned territory and marks in the area of preserved constructions and motorways.

At the given stage objects of construction base are built: - temporary buildings and constructions (open and closed warehouses, sheds, bases for completion and assembling of building constructions and equipment, domestic and administrative complexes are other service constructions).

2.1.2. Construction work

Construction will be carried out by of high-industrial and high-speed methods.

Objects of the construction base are made using modular collapsible buildings and mobile trailers.

The construction need for electric power and water supply is provided from operating networks of NGRES through temporary distributive networks.

2.1.3. Starting-up and adjustment works

Starting-up and adjustment works include the following stages and operations:

1. Organizational and engineering preparation of works (analysis of the working documentation, development of programs and techniques of adjustment works to carry out, testing of technical means of control and management).
2. Implementation of pre-starting technological operations, individual tests and complex approbation of the equipment.
3. Works during development of a designed capacity.

Starting-up and adjustment should be carried out by specially trained personnel of the contract organizations and representatives of the plant.

2.1.4. Labour force

The maximum need for labour force during the peak period of construction will make 500 persons. This need will be provided through attraction of construction workers only from Russia.

For implementation of construction works builders and workers only from Russia will be involved. Engineers and the chief-installations are the experts from SIMIENS and CMI.

For maintenance of comfortable working conditions near the construction site (in the area of fuel-oil pumping №2) the small building town will be assembled. On the concrete site standard domestic trailers will be installed intended for changing clothes and rest of

the workers, equipped by shower cabins and toilets. Upon termination of the construction works the small working town will be dismantled.

Hot food for workers will be delivered by the specialized company to the café (at the construction site).

Habitation of workers will be organized according to security measures of the object, in their own houses (if workers are local) or in the town territory - in hostels which will be checked up on conformity to sanitary-and-hygienic requirements and safety requirements. Special transport will deliver workers to the working place thus there will be no additional loading to local public transport system.

Builders, workers and engineers will be provided with medical care in the first-aid post of NGRES under condition of concluding the appropriate contract or in the self-organized first-aid post.

General organizational actions should be carried out before starting the works:

- carrying out of introductory instructions;
- appointment and approval by the Order of responsible persons for work performance;
- training/ certification and instruction of the contractors' personnel;
- provision of all workers with uniform and personal protective equipment.

2.1.5. Roads and railways

The existing NGRES site is connected with the external railway network. The nearest railway station is Nevinnomysk SKZD. Destination from the switching to the territory of NGRES Branch is 4 km.

The existing entrances to NGRES provide connection with the external network of highways and are preserved.

At construction and installation of the new main building submission of cargoes and equipment, including heavy and lengthy, will be carried out by means of automobile and railway transportation.

Network of highways in the territory of industrial site of NGRES is determined by technological process, industrial and fire-prevention requirements. All designed buildings and constructions are supposed to have highways and sites to buildings which should be accesses at the same time.

The roads have asphalt and concrete cover; type of the cross-section structure is urban with curb stones.

The enterprise OOO TD “Zhelezobeton”, producing modular reinforced-concrete production, ready-mixed concrete, and building solutions, with capacity of 300 m³ ready-mixed concrete in a shift, is located in a distance of 5 km from the construction site. There are three lines of manufacture at the given enterprise: two - for reinforced-concrete, one – for ready-mixed concrete with possibility to produce ready-mixed concrete in two lines. This will allow using production of the given enterprise and reducing transportations of construction materials to the place of the object construction.

2.2. Operation phase

2.2.1. Production

Reconstruction of Nevinnomysk GRES which envisages starting-up of the modern CCGT-410 (Siemens) and withdrawal of worn out capacities of CCGT-170 and the power unit №11 in 2010 will allow increasing power efficiency of the station and reducing emissions of contaminants to the atmosphere.

CCGT is intended for production of thermal and electric power.

Construction of combined-cycled plant is supposed on the basis of gas-turbine unit (Siemens), providing electric power coefficient of efficiency at a level of 57 %.

Nevinnomysk GRES has perfect conditions for construction of CCGT: territory, infrastructure, absence of problems with fuel supply, delivery of capacity and technical water supply.

2.2.2. Equipment

The designed CCGT-410 includes the following basic equipment:

- combined-cycled plant SGT5-4000F consisting of the gas turbine and turbo-generator of 270MW, and also auxiliaries of Siemens AG (Germany);
- boiler-utilizer in which heat of the used turbine gas is converted into steam energy, intended for drive of steam turbines of high, average and low pressure;
- steam turbines SST-700 (high pressure) and SST-900 (average and low pressure) with the general turbo-generator of 130MW of Siemens Industrial Turbomachinery AB (Sweden).

In addition to the listed above basic machines of NGRES a set of auxiliaries providing operation of CCGT-410 will be installed, including the pump equipment, pipelines of

various pressure, point of gas preparation, power transformers, cables, wire ways, switching devices with electric-gas switches, complete sets of instrumentations and automatics and others.

2.2.3. Labour force

Number of workers of CCGT-410 will make 59 person.

Recruiting is planned due to admission of able-bodied population of Nevinnomysk, including graduates of Power technical college.

Social policy at the branches of OAO "OGK-5" for all workers is directed to implementation of practical measures on maintenance of a high level working capacity of the personnel, prevention of occupational diseases and minimization of negative consequences connected with field experience. Social responsibility principles of the company to workers will be implemented at the developed object also.

2.3. Stage of closing and liquidation

With a view of the given work it is supposed that full life cycle of CCGT-410 operation will make more than 40 years.

The stage of liquidation includes works on dismantling the equipment by strengths of contract organizations, removal of equipment from the presence territory for subsequent processing/recycling, and also clearing of the territory from wastes, clearing of soils from chemical contamination and subsequent remediation of soils with the purpose of restoration of its environmental characteristics and further use.

3. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

3.1. Background

Feasible and economically expedient measures are planned to be implemented at ESMP which can reduce to a reasonable level and/or exclude possible essential negative consequences of environmental impact.

At ESMP, in particular:

- expected adverse environmental impacts at construction stage, operation and liquidation are identified and generalized;
- impact reduction measures are described;
- interrelation with existing impact reduction plans are established;

- parameters subject to measurement, monitoring methods to be applied, places of supervision, frequency of measurements are specified.

The environmental and social management plan includes the following elements facilitating its timely and effective realization:

- management system - reflects implementation mechanism of ESMP;
- roles and responsibilities - identify persons responsible for realization of measures on impact reduction and monitoring;
- impact importance assessment - is intended for timely reveal of aspects invoking particular measures on impact reduction;
- environmental and social management plan includes the list of actions on impact decrease, monitoring, and also amount of expenses for their realization.

Each of these elements is described below in details.

3.2. System of environmental and social management

For effective implementation of recommendations on impact reduction it is necessary to organize a system of environmental and social management.

The model of the management system consists of four basic components:

- planning includes development of particular actions and procedures on their realization;
- introduction and functioning - are direct realization of actions;
- checks and correcting actions include monitoring of environmental objects and control over execution of actions;
- analysis includes reporting and efficiency assessment of the introduced actions.

The system of environmental and social management assumes conformity to the Standard of environmental management system ISO 14001 according to which constant improvement of the developed model (periodic updating with entering necessary revisions) is necessary. It is important to note, that special attention during management is paid to interaction with stakeholders (public, state authorities), including submission of reporting and processing notes and offers received.

3.3. Roles and responsibility

For realization of ESMP it is necessary to identify persons responsible for performance of impact decrease/prevention actions, and also those responsible for control over the given actions and to define their role at all stages of the project implementation.

3.3.1. Construction stage

General construction management and control over conducting technological process during construction works will be assigned to the contractor - the Consortium consisting of ENEL Produzione S.p.a. (Italy) and ZAO " Atomstroyexport" (Russia) (further the Consortium). The contractor, in turn, concludes contracts with subcontract organizations performing works at the construction site.

The Consortium bears responsibility for selection and assessment of subcontract organizations.

Control functions over contract organizations activity in the field of labour safety, industrial safety and preservation of the environment are also assigned to the Consortium.

3.3.2. Operation phase

Management of the operating object is assigned to the Branch of "Nevinnomyssk GRES" OAO " OGK-5 ".

3.3.3. Liquidation stage

Main parties participating in liquidation of the installation are:

- OAO " OGK-5 ";
- Branch "Nevinnomyssk GRES" OAO " OGK-5 ".
- liquidating commission;
- public;
- state bodies;
- contract organizations.

3.4. Environmental and social impacts and assessment of their significance

With the purpose of definition of the most effective operating measures on prevention or minimization of possible negative environmental impact the object activity aspects were identified and their importance was estimated.

Identification of the object activity aspects of CCGT-410 which have significant impact on the environment was carried out proceeding from EIA results.

Environmental impacts of CCGT-410 are:

- Impact of contaminants on atmospheric air, the most significant of which are:
 - nitrogen dioxide - 3 class of danger
 - nitrogen oxide – 3 class of danger
 - carbon monoxide - 4 class of danger
 - mineral oil
- waste formation,
- acoustic impact,
- impact on health of personnel,
- in emergency situations - direct and indirect impact of contamination and waste emissions to the environmental components, health of personnel, and population.

The most significant impacts at the operation stage are:

- impact of contaminant emissions on atmospheric air;
- impact on surface water objects;
- acoustic impact;
- waste formation;
- impact of working conditions on health of personnel;
- impact on social environment and infrastructure;
- reputation risks;
- in emergency situations - direct and indirect impact of contamination and waste emissions to the environmental components, health of personnel, and population.

The most significant impacts at construction and liquidation stages are:

- Impact on soils at carrying out of excavations;
- Impact on atmospheric air of emissions of polluting substances;

- Impact on surface water objects
- Acoustic impact
- Waste formation
- Impact on the social environment and infrastructure;
- Impact of unhealthy and dangerous working conditions on health of the personnel;
- reputation risks.

By ranging results of the object activity impacts the following conclusions were made:

- At the project implementation stage the most significant impacts are those influencing social environment and corporate image of the company;
- Environmental risks occurring during the object operation are of average and low importance due to implementation of technological and technical actions, and accepted technical and technological decisions;
- At construction and liquidation stages environmental risks are of low importance due to short-term impact and limited scale of consequences.

Reduction measures for impacts of average significance bring the greatest benefits for the enterprise. Financial investments in reduction actions for insignificant impacts are economically inexpedient.

The environmental risk assessment of the enterprise should be implemented after commissioning of CCGT-410 in the frameworks of the functioning system of environmental management.

3.5. Environmental and social management plan (ESMP)

According to the ranging results of the activity impacts of CCGT-410 (section 3.4) ESMP includes:

- revealed significant aspects of the enterprise activity, incorporated according to the objects of impact;
- significance and character of impacts;
- actions on prevention or reduction of negative impact;

- brief characteristic of expected effect;
- executors, schedule time of works.

At ESMP development all revealed impacts were incorporated into groups according to environmental components (objects) which are mostly influenced by them.

Character of impacts has designations: “+” - positive and “-“ - negative.

The control system over ESMP implementation includes:

- brief characteristic of the object and control method;
- control schedule;
- responsible executors.

3.5.1. Construction stage

The environmental and social management plan for construction stage is presented in table 3.5.1-1 which was developed basing on the assessment of impact significance of the activity aspects of CCGT-410.

The control system over actions performed at construction stage is presented in table 3.5.1-2.

Table 3.5.1-1. Environmental and social management plan (ESMP) at construction stage

	Aspect	Actions on prevention or decrease of negative impact/ achievement of purpose (effect)	Purpose (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Impact on ground					
-	Removal of a layer of ground	1. Storage for future use 2. Accomplishment and greening the construction site	Reduction of ground contamination, preserving their ability to restore.	Consortium	On completion of construction works
-	Formation of ground waste at excavation works	3. Temporary allocation of ground at special sites for future use for return covering and lay-out of territory	Resource preservation, prevention of cluttering up the territory	Consortium	During excavation On completion of construction works
Impact on water objects					
-	Formation of contaminated surface sewage	1. Installation of drainage gutters for collection and removal of contaminated surface sewage to the existing treatment plants of NGRES	Prevention of contamination of surface and underground water objects.	Consortium	Before starting construction works
Waste management					
-	Waste formation	1. Collection and temporary storage of waste according to standards 2. Use of waste/transfer of not used wastes to specialized organizations, licensed for collection, transportation, use, neutralization and allocation of hazard wastes. 3. Observance of environmental, sanitary and other requirements of the legislation of the Russian Federation and SK in the field of waste management. 4. Provision of separate collection of wastes according to the danger class, hazard characteristics.	Prevention of cluttering up the territory Prevention of contamination of soils, underground waters and atmospheric air at temporary storage and allocation of wastes	Consortium, All sub-contractors	During the whole construction process On completion of construction works

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

	Aspect	Actions on prevention or decrease of negative impact/ achievement of purpose (effect)	Purpose (effect) of actions	Executor	Terms of work performance
Regular operating mode					
		5. To store wastes temporary in containers, in case of large dimension it is possible to store wastes at sites with waterproof cover marking with flags. Containers and sites should have notes with indication of contract organization and name of waste.			
Impact on atmospheric air					
-	Emission of solid substances	1. Regular irrigation by water of the construction site and access roads. 2. Restriction of transport speed on roads without special covering up to 29 km/h. 3. Transportation of dust raising materials in closed body. 4. Storing of dust raising materials in closed premises or in places equipped by dust suppression devices.	Reduction and prevention of atmospheric air contamination with solid substances.	Consortium, All contract organizations	During the whole construction process
-	Emission of gaseous substances	5. Reduction of engine operating time at idle speed. 6. Use of technical equipment corresponding to technical specifications. 7. Use of fuel with low contents of sulfur and aromatic hydrocarbon. 8. Service (inc. re-fueling) of technical equipment in specially allocated places.	Reduction and prevention of atmospheric air contamination with gaseous substances.	Consortium, All contract organizations	During the whole construction process

	Aspect	Actions on prevention or decrease of negative impact/ achievement of purpose (effect)	Purpose (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Acoustic Impact					
-	Noise	1. Switching off installations and equipment when they are not used 2. Minimization of work during evening/ night time	Reduction of noise impact level	Consortium, All contract organizations	During the whole construction process
Impact on social environment and infrastructure					
+	Creation of additional workplaces	1. Informing of local population on existing vacancies 2. Maximum possible involvement of local labour recourses	Reduction of unemployment level. Increase of income level of population. Increase of tax payments in local budgets.	Consortium	Before starting construction works (before every construction stage), During the whole construction process
+	Provision of the involved workers with habitation	3. Provision with habitation of the employees of the plant from among local population and from among involved from other regions of the RF.	Provision with habitation (temporary) of employees	Consortium,	Before starting construction works, During the whole construction process
-	Additional freight traffics, loading to existing motor and r/w	4. Development of optimal routes for motor and r/w transport, transportation of workers, cargoes and materials to the place of construction, coordination with local authorities	Provision of security transportation and uninterrupted delivery of cargoes and workers	Consortium	Before starting construction works, During the whole construction process

	Aspect	Actions on prevention or decrease of negative impact/ achievement of purpose (effect)	Purpose (effect) of actions	Executor	Terms of work performance
Regular operating mode					
-	Infringement of requirements on safety and quality of materials used	9. Control of environmental safety and quality of delivered raw material and materials; use of high-quality raw materials and materials corresponding environmental safety requirements	Forming of OGC-5 image as a company making its business in view of environmental and industrial safety.	Consortium	During the whole construction process
Emergency situations					
-	Fires and explosions at construction site.	1. Storage of inflammable and explosive substances and materials at closed warehouses or at fenced sites. 2. Regular territory clearing 3. Availability of necessary means for fire-prevention and provision of operative access to them. 4. Organization of flame and welding works at specially equipped sites and if impossible – equipping of working places with fire-prevention devices.	Prevention of emergency situations, accidents, contamination of atmosphere with combustion products, prevention of material assets losses	Consortium, All contractor organizations	During the whole construction process
-	Spillages of mineral oil	5. Service of technical equipment (incl. refueling) at specially allocated places. 6. Use of trays at work with mineral oil 7. Use dry sand and rags stock and also special absorbents to remove consequences of mineral oil spillages 8. Transportation of mineral oil by special transport	Prevention of soil and underground water contamination with mineral oil products Prevention of raw material losses	Consortium, All contract organizations	During the whole construction process

Table 3.5.1-2. Control of action performance at construction stage

№ of action	Control system			
	Object of control	Method of control	Control schedule	Executor
Regular operating mode				
Impact on soils				
1, 2	Performed works	Visual control	On completion of construction works	Manager of the Consortium for control of environmental conditions at construction site
3	Performed works	Visual control	Permanently during excavations according to schedule of rounds and checks	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
Impact on water objects				
1	Construction site	Visual control	According to schedule of rounds and checks at the period of snow melting and intensive rains	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
Waste management				
1,2	Construction site. Places of temporary storage of wastes at the site	Visual control	According to schedule of rounds and checks	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
Impact on atmospheric air				
1, 2, 3, 4	Ways of storage and transportation of dust raising materials, application of dust suppression devices	Visual control	According to schedule of rounds and checks	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
	Atmospheric air quality	Chemical analysis	According to control schedules	Sanitary-industrial laboratory (on contract agreement)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Method of control	Control schedule	Executor
Regular operating mode				
5, 6, 7, 8, 9	Motor transport at construction site	Visual control, check of technical documentation	According to schedule of rounds and checks	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
	Atmospheric air quality	Chemical analysis	According to control schedules	Sanitary-industrial laboratory (on contract agreement)
Acoustic impact				
1,2,3	Construction site	Visual control	According to schedule of rounds and checks	Manager of the Consortium for control of environmental conditions at construction site, experts of oversight bodies
Impact on environment and infrastructure				
1, 2	Involved labour resources	Statistical data analysis	Monthly during the whole construction process	Manager of the Consortium for health protection and industrial safety, experts of oversight bodies
3	Volumes of habitation provided (sq.m)	Statistical data analysis	On the fact of construction	Manager of the Consortium for health protection and industrial safety, experts of oversight bodies
4	Condition of roads	Visual control	According to schedule of rounds and checks during the whole process of construction	Manager of the Consortium for health protection and industrial safety, experts of oversight bodies
Impact on health of personnel				
1	Quality of healthcare services in first-aid post	Visual control	According to schedule of rounds and checks during the whole process of construction	Manager of the Consortium for health protection and industrial safety, experts of oversight bodies
2	Level of diseases	Statistical data analysis	Monthly	

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Method of control	Control schedule	Executor
Regular operating mode				
3	Construction site	Visual control	According to schedule of rounds and checks during the whole process of construction	
4	Working places	Measurement of parameters (noise, vibration, electromagnetic field)	According to schedule of working places certification	Sanitary-industrial laboratory
5		Visual control	According to schedule of rounds and checks	Manager of the Consortium for health protection and industrial safety, experts of oversight bodies
Reputation risks				
1, 2, 3, 4, 5	Public opinion Mass media materials	Carrying out of public opinion research (questioning, social poll) Analysis of mass media materials	During the whole process of construction	Press-service
6, 7, 8	Observance by the contractor of the company requirements in the field of OT, PB and OOS.	Visual control; analysis of documentation on instructions; Interviews with executors	During the whole process of construction according to schedule of rounds and checks	Managers of the Consortium for control of environmental conditions at construction site and for health protection and industrial safety,
9	Raw material and materials	Visual control; check of documentation	On receipt of raw materials and materials during the whole construction period	Managers of the Consortium for control of environmental conditions at construction site and production and service quality
Emergency situations				
1, 2, 3, 4	Construction site	Visual control	During the whole process of construction according to schedule of rounds and checks	Managers of the Consortium for CD and ES

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Method of control	Control schedule	Executor
Regular operating mode				
5, 6, 7, 8, 9	Places of service of technical equipment and motor transport Transportation ways of mineral oil products	Visual control	During the whole process of construction according to schedule of rounds and checks	Managers of the Consortium for CD and ES

3.5.2. Operation stage

The environmental and social management plan for operation stage is presented in the table 3.5.2-1 developed on the basis of assessment on risks significance.

Monitoring of actions performance at operation stage is presented in the table 3.5.2-2.

3.5.3. Liquidation stage

The environmental and social management plan for liquidation stage is presented in the table 3.5.3-1 developed on the basis of assessment on risks significance.

Monitoring of actions performance at liquidation stage is presented in the table 3.5.3-2.

Table 3.5.2-1 Environmental and social management plan (ESMP) at operation stage

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Impact on water objects					
-	Formation of surface sewage at the enterprise territory	1. Collection of surface sewage to the closed shower network which are directed to treatment plants of OAO "Nevinnomyssky AZOT on separate agreement.	Prevention of contamination of soils, surface and underground waters.	Production Director, Chief engineer, PTO, Heads of sub-divisions Sanitary-industrial laboratory (on contract agreement)	The whole operation period
-	Formation of industrial sewage	2. Collection of surface sewage to the closed shower network which are directed to treatment plants of OAO "Nevinnomyssky AZOT on separate agreement.	Exclusion of sewage disposal, prevention of underground water contamination.		
-	Formation of domestic-industrial sewage	3. Removal of domestic sewage to treatment plants of Nevinnomyssk	Exclusion of crude sewage disposal, prevention of contamination of surface water objects		
-	Changing of dumped sewage quality	4. Monitoring of water condition of surface water objects 5. Quality control of dumped waters	Elimination of quality change reason of surface waters.		
Waste management					
-	Formation and allocation of wastes	1. Use and maintenance in working order of modern technical equipment that allows minimizing formation of waste from the main producer.	Reduction of waste volumes Prevention of cluttering up the territory Prevention of contamination of soils, underground waters and atmospheric air at storage and allocation of wastes	Production Director, Chief engineer, PTO,	The whole operation period

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
		2. Transfer of not used part of wastes to specialized organizations for recycling		Environmental Department, Heads of divisions	
		3. Temporary storage of wastes at industrial site observing environmental standards, sanitary and other requirements stated by the legislation of the RF and SK in the field of waste management.		Heads of sub-divisions	
Impact on atmospheric air					
-	Emissions of solid and gaseous substances	1. Development of actions on regulation of emissions during the period of adverse meteorological conditions	Minimization of emissions of contaminants to the atmosphere	PTO	The whole operation period
		2. Organization of uninterrupted control over emissions of contaminants to the atmosphere using the results of scheduled supervisions			
Acoustic impact					
-	Noise at the territory and beyond the bounds of the enterprise	1. Use of technologies of power units with low noise and vibration level 2. Application of mufflers at steam exhausts in contrast to removed equipment	Reduction of noise level	Chief engineer	The whole operation period

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Impact on social environment and infrastructure					
+	Creation of working places for local population	1. Maximum possible involvement of local labour force in view of qualifying requirements	Increase in total incomes of the population, tax revenues to the city budget	Human resource service	The whole operation period
+	Training of personnel	2. Organization of training courses, individual programs	Improvement of professional skills and culture of personnel Arrangement of conditions for professional and carrier development	Human resource service	
+	Provision of social benefits for personnel	3. Provision of privileges, guarantees and indemnities according to labour contracts (collective agreement)	Motivation of personnel Social stability	Human resource service	
+	Material support of former employees of the enterprise	4. Provisions of privileges, guarantees and indemnities according to labour contracts (collective agreement) to former workers of the enterprise who have retired	Material support of socially not protected groups of population	Human resource service	

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Impact on health of population					
-	Harmful working conditions	1. Installation of signal devices of gassed condition in potentially dangerous premises	Provision of safety working conditions at working places Reduction and prevention of traumatism and accidents at the industrial site	Heads of sub-divisions	The whole operation period
		2. Provision of conformity of working places to OT requirements			
		3. Availability of warning, forbidding and information signs and marking, sound and light automatic signals			
		4. Accomplishment of the industrial site territory arrangement of resting places	Reduction of physical and psychological loading on personnel Increase of labour productivity	Heads of sub-divisions	The whole operation period
		5. Provision of personnel with round-the-clock qualified healthcare	Provision of operative healthcare	First-aid post	
		6. Organization and implementation of antiepidemic actions	Reduction of diseases		
		7. Periodic medical surveys	Timely revealing and prevention of diseases		
		8. Provision of sanatorium treatment to workers and members of their families		Human resource service	

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Reputation risks					
+	Interaction with the public	1. Informing of the public on introduction at NGRES of advanced technical and technological decisions which allow minimizing negative environmental impact 2. Presentation of environmental policy to the public 3. Informing of the public on the company policy in the field of labour safety and industrial safety 4. Organization of admission and registration of opinions and comments from the population 5. Informing of the public on production plans and activity of NGRES	Establishment of partner relations with stakeholders	Press-service PTO	The whole operation period
		6. Informing of the public on social programs implemented by OGK-5 and on implementation of social programs at NGRES 7. Informing of the public on the achieved positive social effects during operation process of NGRES	Formation of OGK-5 image as socially responsible company		
-	Infringement of OT, PB and OOS requirements	8. Informing of all employees on the company requirements in the field of OT, PB and OOS. 9. Informing of personnel on possible negative consequences for the environment and population in case of infringement of working rules. 10. Control of environmental safety and quality of the received raw materials and materials; Use of high quality raw materials and materials corresponding to environmental safety requirements	Formation of responsibility to the society of the whole personnel for the activity implemented. Forming of NGRES image as company making its business in view of environmental and industrial safety	Department of OT and PB, PTO Sanitary-industrial laboratory (on contract agreement)	The whole operation period of the plant

	Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Regular operating mode					
Emergency situations					
-	Fires and explosions	1. Storage of inflammable and explosive substances and materials in specially allocated equipped places 2. Transportation of combustible substances by special vehicles 3. Regular clearing of the territory 4. Provision of necessary means of fire-prevention and operative access to them 5. Provision of working capacity of the systems of fire-prevention and automated fire signal 6. Provision of uninterrupted water supply to fire-prevention 7. Training of personnel on prevention of fire, regular trainings with personnel on the activity plan in case of fire 8. Provision of special technical equipment and personnel for liquidation of fire	Prevention of emergency situations, accidents, contamination of the atmosphere and soils with burning products, prevention of losses of material assets	Heads of sub-divisions Experts on CD and ES	The whole operation period of the plant
-	Probability of emergency situations occurrence	9. Provision of free thoroughfare to the plant territory of salvage and rescue services	Provision of operative reaction at ES	UVO Minenergo of the RF	The whole operation period
		10. Organization of the system on notification of emergency situation		Headquarters of CD and ES	By operation start

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

Aspect	Actions on prevention or decrease of negative impact/ achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance	
Regular operating mode					
	11. Regular registration of incidents and accidents	Prevention of incidents and accidents	Department of OT and PB; Heads of divisions	The whole operation period	
	12. Informing of personnel on incidents and accidents				
	13. Organization and maintenance in appropriate condition of refuges at the plant territory providing estimated capacity and required safety class	Provision of life security of personnel at ES	Headquarters of CD and ES	The whole operation period	
-	Spillages of mineral oil products	14. Development and approval in accordance with established procedure of the warning and liquidation plan on accidental spillages of mineral oil products	Prevention of contamination of soils, surface and underground water objects with mineral oil products Prevention of raw material loss	Headquarters of CD and ES	By operation start of the plant
		15. Arrangement and maintenance in proper condition of places for storage and use of mineral oil products (caving, trays)		Heads of divisions	The whole operation period of the plant
		16. Use of dry sand stock and rags, and also special absorbents for liquidation of consequences of spillages			

Table 3.5.2-2 Control of actions performed at the operation stage

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
Regular operating mode				
Impact on atmospheric air				
1, 2,	Quality of atmospheric air at SZZ boundary and in residential site development Control of PDV specifications observance over stationary sources of emissions.	Chemical analysis	According to control schedules	Sanitary-industrial laboratory (on contract agreement)
Impact on water objects				
1	Territory of industrial site, system of storm collector	Visual control	According to schedule of rounds and checks, at the period of snow melting and intensive rains	Chemical section
2	Volumes of water consumption and water removal	Instrumental measurement	Monthly	PTO
3	Quality of sewage at the entrance to the sewerage collector and treatment plants	Chemical and biological analysis	According to the monitoring program, and control schedules	Chemical section
4	Water quality of surface sources	Chemical analysis		
5	Quality of sewage to the surface sources	Chemical analysis		
Waste management				
1, 2, 3	Condition of the industrial site territory	Visual control	According to schedule of rounds and checks	PTO
	Volume of waste formation	Documentation analysis	Annually	PTO

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
Regular operating mode				
Acoustic impact				
1,2,3,4,5	Acoustic condition of the territory	Instrumental measurements	According to the monitoring program	PTO
Impact on social environment and infrastructure				
1	Involved labour forces/ part of local population of the involved labour forces	Analysis of statistical data	Quarterly	Human resources service
2	Level of the personnel competence	Qualifying examinations tests,	According to schedule	Department of OT and PB
3	Opinion of personnel	Social polls	Annually	Human resources service
4	Opinion of former employees of the enterprise	Social polls	Annually	Human resources service
Impact on health of personnel				
1	Working places	Chemical analysis	According to the schedule of working places certification	Sanitary-industrial laboratory, Department of OT and PB
2		Measurement of physical parameters		
3		Visual control	According to schedule of rounds and checks	Department of OT and PB
4		Territory of the industrial site		
5		Quality of healthcare services	Analysis of documentation and reporting, statistical data	Rospotrebnadzor
6, 7, 8	Level of diseases of the personnel	Analysis of statistical data	Quarterly	First-aid post, Department of OT and PB
Reputation risks				

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
Regular operating mode				
1, 2, 3, 4, 5, 6, 7	Public opinion Materials of mass media	Carrying out of researches of public opinion (questioning, social poll) Analysis of mass media materials	Occasionally depending on the introduction of new environmental decisions at the plant, implementation of new social programs	Press-service
8, 9	Observance by the employees of OT, PB and OOS requirements	Visual control Analysis of documentation on instructions and training Interviews with executors	According to schedule of rounds and checks According to schedule of internal audits	Environmental and quality Directorate, Department of OT and PB
10	Raw material and materials	Analysis of documentation	Monthly	
Emergency situations				
1	Storage places of explosive and inflammable materials	Visual control	According to schedule of rounds, checks and trainings	UIT
2	Transportation means			
3	Territory of the enterprise			
4	Objects of industrial site			
5	Objects of industrial site	Testing of fire-prevention and signal systems		
6	System of fire-prevention water supply	Visual control		
7	Awareness of personnel on responsibilities and actions in case of fire	Examinations, tests, trainings		
8	Availability of special technical equipment and personnel for liquidation of fires	Documentation analysis Visual control		Headquarters of CD and ES

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
Regular operating mode				
9	Check-point	Visual control	According to schedule of checks and trainings	Headquarters of CD and ES
10	Actions of personnel	Testing of the notification system working capacity	According to schedule of checks and trainings	Headquarters of CD and ES
11, 12	Reports on accidents and incidents	Data analysis	Quarterly	Department of OT and PB – at industrial objects Headquarters of CD and ES – at emergency situations PTO – at off-schedule emissions
13	Premises of refuges	Visual control	According to schedule of checks and trainings	Headquarters of CD and ES
15	Places of storage and use of mineral oil products	Visual control	According to schedule of rounds, checks	Shift men, Heads of sections of foundry and electrolysis production
16	Objects of industrial site	Visual control	According to schedule of rounds, checks	Shift men, Heads of sections of foundry and electrolysis production

Table 3.5.3-1 Environmental and social management plan (ESMP) at the liquidation stage

Aspect	Actions on prevention or reduction of negative impact/achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Impact on soils				
- Residual physical presence of CCGT-410	1. Development of the plan on restoration and rehabilitation of the territory	Rehabilitation of resource for further use	Project organization	Till the end of CCGT-410 operation
	2. Implementation of the plan on restoration and rehabilitation of territory (fill up of ground, stacking of a fertile layer of ground, planting of vegetation: turf-forming grass, wood etc)		Selected contractor	Till the end of CCGT-410 operation
Impact on water objects				
- Formation of contaminated surface sewages	1. Arrangement of drainage channels for collection and removal of contaminated surface drain to treatment plants	Prevention of contamination of surface and underground water objects	Selected contractor	Till the end of CCGT-410 operation Is planned
Waste management				
- Formation of wastes at dismantling of equipment and demolition of buildings	1. Maximum possible reuse or recycling of wastes 2. Allocation of not-utilized wastes according to sanitary-hygienic requirements 3. Conclusion of contracts for transfer of wastes with specialized organizations licensed for collection, transportation, use, and allocation of wastes	Prevention of cluttering up the territory Prevention of contamination of soils, underground waters and atmospheric air at temporary storage and allocation of wastes	All contractors	After the end of CCGT-410 operation and activities on dismantling of equipment and demolishing of buildings and constructions

Aspect	Actions on prevention or reduction of negative impact/achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Impact on atmospheric air				
- Emissions of solid substances	1. Regular irrigation with water of the industrial site and access roads 2. Limitation of transport speed along the roads without special covering up to 20 km/h 3. Transportation of dust raising materials in a closed body	Reduction and prevention of contamination of the atmospheric air with solid wastes	Selected contractor	After the end of CCGT-410 operation and activities on dismantling of equipment and demolishing of buildings and constructions
- Emissions of gaseous substances	4. Reduction of operating time of the engine idling 5. Use of technical equipment corresponding to technical specifications 6. Use of fuel with low contents of sulfur and aromatic hydrocarbon 7. Service of technical equipment (incl. refueling) in special places	Reduction and prevention of contamination of the atmospheric air with gaseous substances		
Impact on social environment and infrastructure				
- Release of labour forces due to the plant liquidation	1. Development of the program of employment of the released workers	Employment of the released workers Prevention of unemployment increase	Human resources service, Center of the population employment of Nevinnomysk	Till the end of CCGT-410 operation
	2. Preliminary informing of the public on future liquidation and on the program of employment of the released workers	Reduction of social intensity. Provision of time to workers for searching new work places	Press-center	

	Aspect	Actions on prevention or reduction of negative impact/achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
Impact on personnel health					
-	Dangerous and unhealthy working conditions	1. Provision of personnel with primary healthcare	Decrease of diseases, provision of safety conditions. Formation of NGRES image as a company responsible for preservation of life and health of the people	Медицинский пункт	During the activity on operation and activities on dismantling of equipment and demolishing of buildings and constructions
		2. Availability of information and notification signs and fences		All contractors	
		3. Provision of conformity of workplaces to OT requirements			
		4. Application of SIZ			
Reputation risks					
+	Interaction with public	1. Preliminary informing of the public on the future liquidation 2. Preliminary informing of the public on the program of employment of the released workers 3. Organization of admission and registration of opinions and comments of population 4. Informing of the public on implementation of social programs after the plant liquidation	Establishment of partner relations with stakeholders Formation of NGRES image as socially responsible company	Press-service	Before the end of operation and during liquidation process

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

	Aspect	Actions on prevention or reduction of negative impact/achievement of the objective (effect)	Objective (effect) of actions	Executor	Terms of work performance
-	Infringement of OT, PB and OOS requirements	1. Selection of sub-contractor organizations in view of their readiness for the activity according to OT, PB and OOS requirements 2. Informing of sub-contractor on the company requirements in the field of OT, PB and OOS	Formation of NGRES image as a company making its business in view of environmental and industrial safety	STPR	Before liquidation stage

Table 3.5.3-2 Control of actions performed at liquidation stage

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
Impact on soils				
1	Developed documentation	Analysis of documentation	On the fact of development	PTO
2	Works performed	Visual control	During implementation of the plan on rehabilitation and restoration of the territory	
Impact on water objects				
1	Industrial site	Visual control	According to the schedule of rounds and checks during snow melting and intensive rains	PTO; Experts of inspection authorities
2	Objects of industrial site where domestic-industrial sewages are formed	Visual control	According to the schedule of rounds and checks	
Waste management				
1	Contracts or other agreements on recycling and use of wastes	Analysis of documentation	During liquidation period	PTO
2	Places of wastes allocation	Visual control	According to the schedule of rounds and checks	
Impact on atmospheric air				
1, 2, 3	Means of storage and transportation of dust raising materials, application of dust suppression devises. Motor transport at industrial site	Visual control, verification of technical documentation	According to the schedule of rounds and checks	PTO
4, 5, 6, 7	Motor transport at industrial site	Visual control, verification of technical documentation	According to the schedule of rounds and checks	

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

410 MW (CCGT UNIT) OF NEVINNOMYSSK STATE DISTRICT POWER STATION

№ of action	Control system			
	Object of control	Control method	Control schedule	Executor
<i>Impact on social environment and infrastructure</i>				
1	Developed documentation	Analysis of documentation	On the fact of development	Press-service
2	Information materials	Analysis of documentation	Before the end of operation	

