– physical factors (noise, EMF, etc.));

– risk of fire / explosion, emergencies and incidents with harmful effects on the environment.

As a result of the analysis, it was found that emissions of pollutants into the air are carried out from 168 emission sources, 127 of which are organized, equipped with gas treatment plants – 3.

To manage emissions of pollutants into the air, the branch conducts an inventory of emissions, identifies stationary sources of emissions and on this basis developed and agreed standards for the formation of emissions of pollutants into the air for planning work to reduce the impact of technological processes on the air basin.

The water of the branch of "Minsk heating networks" is carried out according to the contract signed with UE "Minskvodokanal" contract, agreement intraeconomic relations with Minsk CHP-3, the contract with JSC "Cloth" on a vacation technical clarified water to Kazakhstan "Western" agreement with the Republican unitary enterprise "ZSKA" pumping industrial water to Kazakhstan, the contract with JSC "Russian movt" Gorodovoy flow of water to Kazakhstan "Western".

Proceedings on exploitation of Vileyka-Minsk water system and the production of "Minskvtormet", UE "Minskvodokanal" guarantee the supply of technical and gorodovoe water branch of "Minsk heating networks".

Reset rain, household and industrial wastewater is carried out under agreements with the UE "Minskvodokanal", UE "Horribleness", KUP "Remavtodor the Central district of Minsk", UE "Remavtodor of the Moscow district of Minsk", UE "Gerdarmerie", the unitary enterprise "Remavtodor of Kastrychnitski district of Minsk" and etc.

Interaction between UE "Minskvodokanal" and MTS is regulated by the following acts:

– about limits of responsibility for operation, technical condition and maintenance of external networks and input of the economic and drinking water supply system;

– about borders of responsibility for operation, technical condition of external networks of the Sewerage;

– carrying supplies water service water.

On MTS organized conditions for separate collection and delivery for the use of certain types of waste (secondary material resources): paper, plastic, PET bottles, wood waste. Under contracts with specialized organizations MTS periodically delivers to the disposal and use of waste oil, worn tires, batteries, spent fluorescent lamps, etc.

The branch carries out production environmental control in accordance with the"Instructions for the implementation of production control in the field of environmental protection".

Environmental protection action plans are drawn up annually and submitted to the RUE "Minskenergo" to include them in the General action plan and ensure appropriate funding.

To reduce emissions of pollutants such as nitrogen dioxide, nitrogen oxide, sulfur dioxide, carbon monoxide, it is necessary to carry out such activities as the conclusion of the thermal scheme of boilers Art. 5,6,7 with an increase in the load on boilers and CCGT, which will be aimed at reducing the number of sources of emissions, redistribution of emissions from the remaining sources and reducing the surface concentration of harmful substances at the respiratory level.

To reduce nitrogen dioxide emissions, it is necessary to carry out such activities as the reconstruction (replacement) of steam boilers, which will be aimed at reducing the concentration of nitrogen oxides in the exhaust gases of steam boilers.

AUTOMATION OF WATER LEAKAGE CONTROL SYSTEM

A. Turchinovich, T. Smirnova

Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus
arkasha750@gmail.com

The automated control system of water rate-of-flow and protection against its leakages allows to minimize risk of damage from accidents in the water supply system, breakages of a sanitary inventory and also to lower the material inputs, the bound to elimination of consequences of leakages. The system allows to control the water rate-of-flow at around the clock functioning.

Keywords: “smart” house, aquatic ball faucet, sensors of water, Raspberry Pi, pulse counter.

One of the principal directions of increase in effectiveness of systems of water supply is automation of processes of accounting of a water discharge and keeping track of leakages in the operational and reliable mode. Systems of varying complexity and functionality are presented at the market of the automated devices of protection against leakages of water. But installation and service of such systems expensive. Development of microelectron-

ics and rapid progress of communication facilities (Internet, Wi-Fi, GSM) allow to realize the concept "the smart house" at the expense of inexpensive and available elements self-contained.

This research describes the model of the functional node for tracking water leaks.

The main role in system is carried out by the one-paid Raspberry Pi computer allowing not only to obtain data, but also to operate all system, including remotely.

The developed control system behind leakages of water is intended for the operated buildings with long-laid communications. A principal component of system is the aquatic ball faucet with the electric drive installed on an input of cold water. It works using an electrical power unit on 12B which is connected to the laid cables. To close the crane, the third operating wire has to be connected to a zero phase. The crane will open when disconnected from "zero".

The power supply unit 2A on 12B (Fig. 1) will be constantly connected to network 220B and connected to the electric crane. The zero phase is connected through the operated contacts of the relay to the operating electric crane wire. The radio socket will be connected to network. On a signal from the controller, the radio socket supplies power to the unit 0,5A which operates the relay (see Fig. 1) [1].

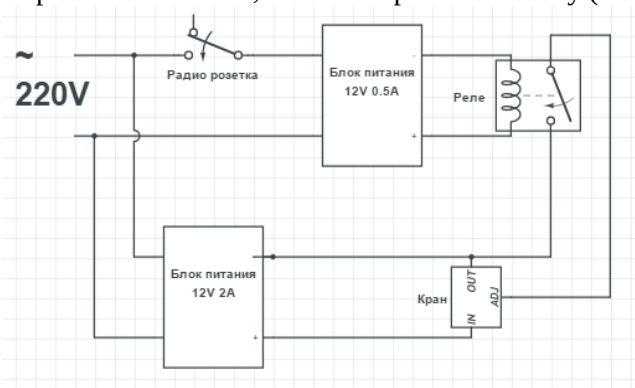

Fig. 1. Scheme of connection of the aquatic ball faucet with the electric drive to network

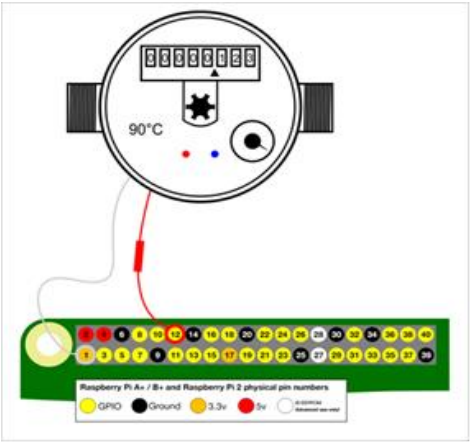

Fig. 2. Connection of the counter to Raspberry Pi

One more component of system is the water sensors reacting to liquid and sending a signal to the controller. The controller creates the notice on this event, sends a signal to the controlled relay. As a result, there is an emergency overlap of water in the system. It provided that the sensor has digital and analog outputs. Water Counter with a pulse output can be connected to the contacts according to the scheme (Fig. 2).

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SOLAR FLARES AND THEIR PREDICTION METHODS

D. Vasilevskaya[1,2], O. Boyarkin[1]

[1]Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus
[2]Researchers Training Institute National Academy of Sciences of Belarus,
Minsk, Republic of Belarus
Daro.vasilek@gmail.com

This article provides an overview of methods for predicting solar flares that are currently in use. Radiation from solar flares often reach our planet, exerting a strong effect on the upper layers of the earth's atmosphere (ionosphere). They also lead to the occurrence of magnetic storms and auroras. Predicting solar flares more than the day before they occur will provide early warning to protect satellites, power systems, and astronauts from potentially hazardous radiation.

Keywords: solar flares, solar magnetic fields, neutrinos, solar activity.

Solar flare is an explosive process of energy release (kinetic, light and heat) in the solar atmosphere. These solar flares are characterized by a colossal energy release affecting planetary weather, as well as the behavior and