СЕКЦІЯ 2.
ВПРОВАДЖЕННЯ МЕХАНІЗМІВ ЕФЕКТИВНОГО ВИКОРИСТАННЯ ФІНАНСОВИХ, ЗЕМЕЛЬНИХ, МАЙНОВИХ ТА ІНШИХ РЕСУРСІВ ГРОМАД

HEAT AND POWER USE OF ILLIQUID FOREST CARE WASTE WITH OPTIMIZATION OF LOGISTICS

Belyaev G.V., PhD, Senior Researcher
Belyaeva I.P., PhD, Senior Researcher
Hartwig A.P., Senior Researcher
Stetsuk V.G., Junior Researcher
Institute of Engineering Thermophysics of the NAS of Ukraine

The paper is devoted to solving logistical problems that hinder the creation of a sustainable system of energy use of forestry waste in Ukraine.

It is these problems that are of key importance, at least at the initial stage of cooperation between forestry and thermal power engineering. [1].

Every year, a number of illiquid wastes are generated in the forestry, which are burned in the forestry enterprises in accordance with the current fire safety rules, with labor and liquid fuel costs, as well as environmental pollution by combustion products.

Such wastes include:

a) Small diameter wood.

b) Root wood.

c) Timber not sold and rejected in time.

d) Wastes from own processing of commercial timber occurring in forestries:

- Solid waste (slab wood, side edges of edged boards).
- Soft waste (bark, sawdust, shavings)[2].

Solutions to this problem include:

- determination of heat generating facilities located within a radius of up to 10, 20 and 30 km and, accordingly, assigning them to 3 categories of economic feasibility of cooperation; objects at a distance of more than 30 km are proposed not to be considered for participation in the project
- conducting an application campaign on the need for fuel chips from these heat generating facilities quarterly during the calendar year;
- design and technical decisions on the organization of storage of fuel raw materials on the territory of forestry enterprises should be based on the modular principle, and the relevant modules should be explored on a real scale.

Such researches were carried out within the limits of departmental topics. The expediency of using different alternative storage methods is explained as follows:

- storage of solid wood in separate piles is possible, taking into account fire safety requirements, only in areas of final felling, where there is free space and requires the return of personnel (subsequently) to these areas for the removal of

wood. The advantages of this method include the absence of the need to allocate a special area for storage.

- storage of wood in a whole form in elongated stacks in a specially designated area is considered fireproof and quite promising. The disadvantages of this method are additional operations for the formation of stacks. Storage in crushed form is considered the most technologically advanced, but also the most dangerous in terms of spontaneous combustion.

The received data and the offered recommendations concerning possibilities of long-term storage of wood in the specified ways.

All tested alternative methods of long-term storage and pre-drying of illiquid wood should be considered suitable for practical use in forestries, and the feasibility of using one or another method depends on the specific type of felling (forest care, sanitary felling, main use) [3]. For example, when felling the main use, it becomes possible to leave logging residues in the area subjected to total felling. In this case, the least labor input corresponds to such a method of storage and pre-drying as the formation of heaps. This possibility is due to a decrease in fire risks on a plane freed from a tree stand.

The use of storage and pre-drying in the form of stacks can be used along roads in cases where further processing into fuel (grinding and drying) is planned not in the forest, but at the heat generating facility. In this case, it is advisable to grind near the road with the simultaneous loading of chips into the chip truck, and the final drying - on the heat-generating object.

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