



ASPECTS OF SUSTAINABILITY MACHINE MAINTENANCE

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Abstract

At present, the reliability of production equipment as well as the company is necessary to preserve competitiveness on the market. Article examines important aspects of the maintenance organization new production, because good maintenance organization is a key element for reliable production system and maintains market position.

Key words

Maintenance, optimizing, effectiveness, machinery, costs

Introduction

Process optimization of maintenance and renewal of machines represents a significant internal source of efficiency improvement enterprise, thus improving its market position. Feasibility of these objectives can be achieved by assessing needs, defining the context and perspective of estimates of maintenance and renewal in removing physical and moral obsolescence of the means of production. Options and effects of maintenance and rehabilitation and achieve best life are a prerequisite for the determination of a suitable alternative planning necessary technical and economic resources to ensure it, the smooth running of production and immediate needs of property development, manufacturing company.

The problems of sustainability

Production is worldwide radically affected by complex economic, socio-political and technological dynamics. The management of the production and use of production processes, machines and systems increases the demands on cost and maintainability, as a result, there is support for the identification and quantification of the inputs and outputs of individual subjects production system for the purpose of transparency of economic and financial flows. On the other hand, it is a general requirement to revitalize production (improving employment, increase productivity, ...), which gives the requirements for funds (own, foreign) provided capital and leads to increased demands on an availability of the property (occupancy production infrastructure).

These two problems are related with that. The first consists in the sustainable management infrastructure through policy maintenance or restoration (recovery Infrastructure) on the longer period of time. The second problem affects the maintenance organization, including the organization of working periods (typology maintenance work on the production infrastructure), in the context of increased utilization of the production plant.

Managing of sustainability

High expectations on the financial results of production often lead to the temptation to immediately restrict investments in favour of reducing the cost of recovery, i.e. at the expense of sustainability property. The chronic lack of means required for regeneration causes



constant the impairment of assets (define it as the value of the property at the time of production infrastructure average useful life remaining of its components). Essentially production base built on the old elemental base is characterized by its, that residual life is small, so the value of the asset is reduced, leading to loss of control of production infrastructure, which we explained the mechanism Fig. 1.

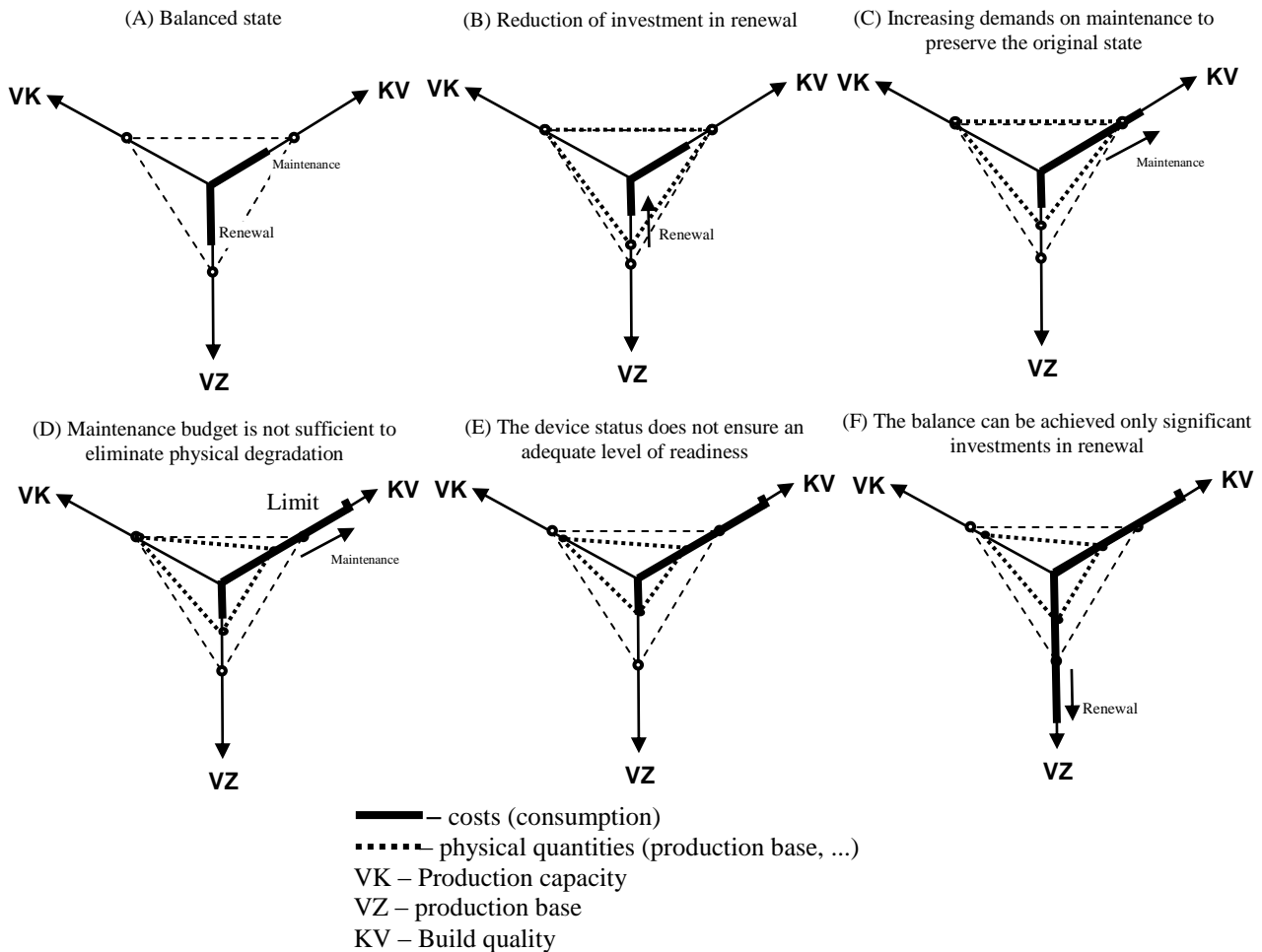


Fig. 1 The mechanism of loss of control over infrastructure: lack of maintenance policy

Imagine manufacturing infrastructure with a stable value of assets (corresponding value of the property at the time of the average lifetime of its components), whose condition meets the requirements of the sustainability of operation (state A). Maintenance managers decide to reduce the funds allocated for the reconstruction of production infrastructure. The value of assets (production base) is permanently reduced despite the fact that the maintenance requirements for care of the production infrastructure are respected (state B). In the coming years, it is increasingly difficult to maintain the quality and condition of the production base, without so greatly to not raise the amount allocated for maintenance (state C). This further reduces the value of the production base and production quality, the amount of funds provided for the maintenance of production infrastructure assets is not sufficient to maintain the state of the infrastructure (state D). The system becomes unstable, requires a lot of maintenance in the nature of a temporary measure, which is very expensive and has its limits and results in a reduction in production capacity (state E). In this case, there are two solutions: either interrupt the operation of the production department or huge investment in renewal. Re-acquired



production performance requires a huge amount of technical and financial resources for the recovery of production infrastructure (state F). Unfortunately, the beneficial effects of the investment effort will not appear immediately because production costs only gradually declining. This inertia raises doubts among the owners and creditors of the company, who are reluctant to invest heavily in its entirety. Most prominently, it is seen at the top level (political, economic) in which the long-term stability and self strategy.

Solution of sustainability management is aimed to ensure that we avoid favouritism financial results in the maintenance from short term at the expense of renewal aimed at longer period of time, i.e. the sustainability of its infrastructure. It is associated with the ability to predict long-term effects of different maintenance strategies.

Conclusion

The contribution is focused on the complex understanding of the maintenance process relating to the pursuit of the production plant and its optimal solution. It addresses issues allowing to find a suitable path growth in excess and efficiency in difference in power manufacturing operation, i.e. find a balance between the claims (which means less to worry about property / low) and quality / value (which means extending the property / production capacity) structure manufacturing company. These questions play a key role in determining the investment strategy of capacity, i.e. mechanism for the smooth running of production, but also the growth and development of operations of tangible assets of the production company.

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