

KAWASAKI STEEL TECHNICAL REPORT

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Information Systems

New Energy Control System at Mizushima Works

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Synopsis :

At Kawasaki Steel's Mizushima Works, its energy system has been completely innovated for the purpose of stabler supply and more effective use of energy. This system has functions of revising the production plans of the works from a standpoint of energy balance and of monthly planning through hourly supply and demand of energy. The instrumentation system for the energy system has sophisticated man-machine interfaces, which enable a perfect automatic operation through the best use of advanced control technology. Through introduction of this energy system is attained efficient operation of the implant joint power station with other energy facilities in the works, and this has brought satisfactory effects on reduction in the energy cost and number of workers required.

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The body can be viewed from the next page.

New Energy Control System at Mizushima Works*

Synopsis:

At Kawasaki Steel's Mizushima Works, its energy con-



Inc. from oil-fired thermal power generation to coal

costs. The Joint Electric Power Plant was modified from

This exhausts generated energy

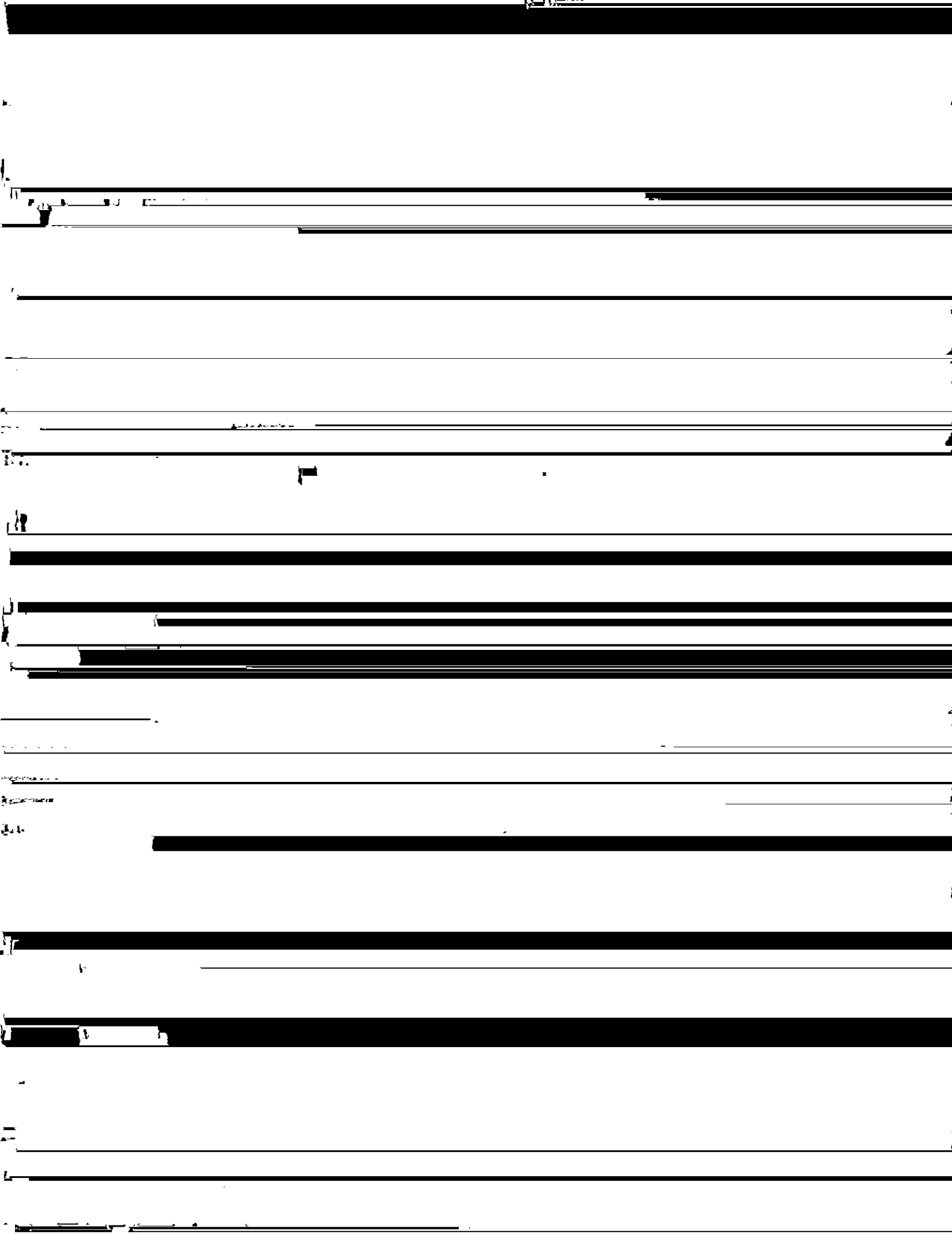
Total planning system
Control system of

System maintenance
Data acquisition

Table 1 Equipment supervised and controlled by the system



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(14 kgf/cm² line), which is widely used in the works. An outline of the medium pressure steam control system is shown in Fig. 5.

Medium pressure steam is produced by the decompressing high-pressure steam generated by the blower

steam within a short time span. The program is run every 5 min, and the results are displayed by CRT as

for determining the production volume of M23G is shown in Fig. 6. The variety of types of information

Input data includes about 40 items, and the rules (production rules in if-then form) number about 60. In the application of this operation support subsystem to process control on a real-time basis, the test function in

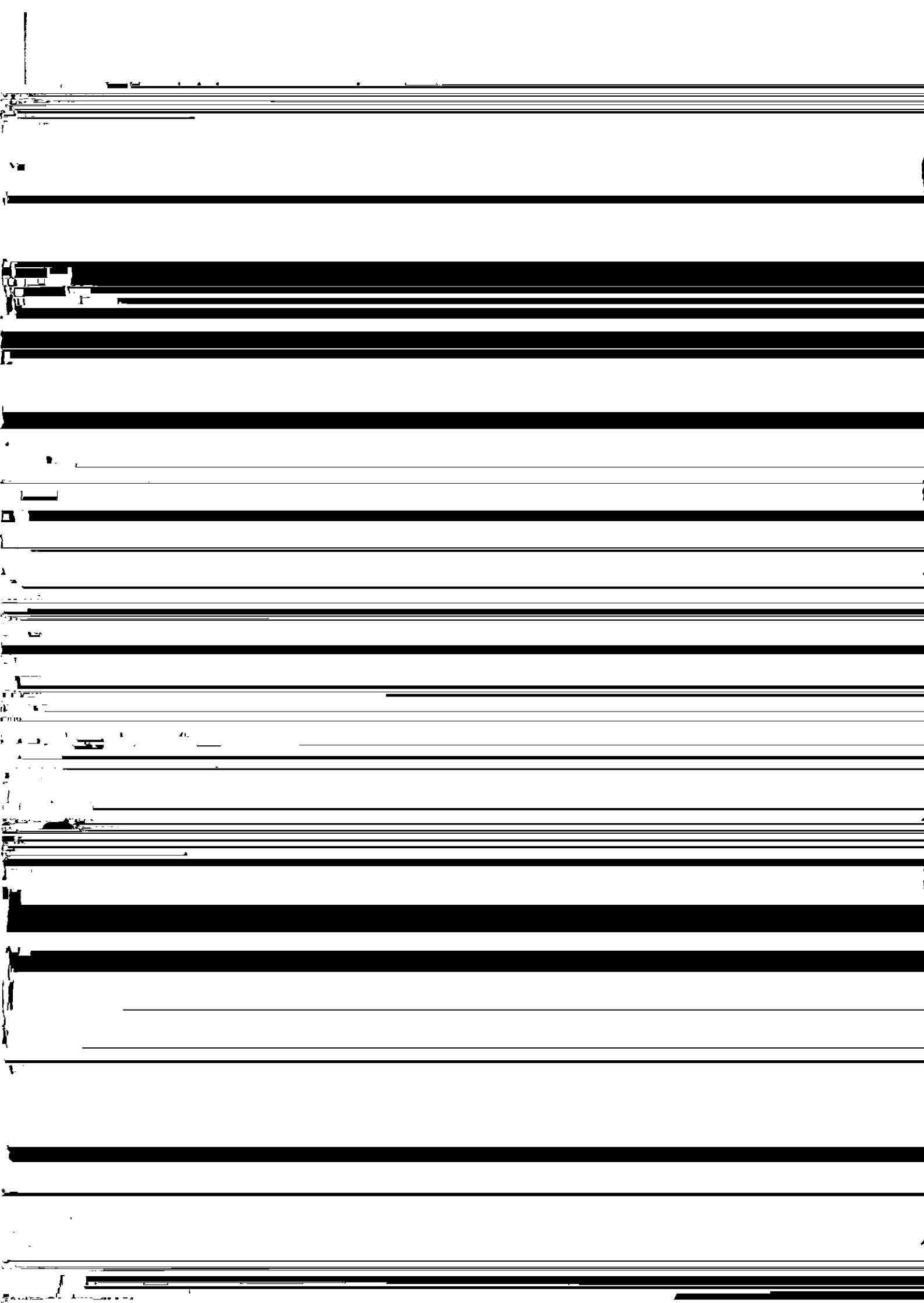
tem to realize automation of the start and stop of the blowers.

Further, the operation of the M26G blowers is determined by the blow timing of the accompanying con

the off-line mode and the simulation function using on-line data were greatly improved.

4.4 Automation of Mixed Gas Blower

verters and the quantities of LD gas generated. This operation has now been automated, with information transmitted on a real-time basis from the converter P/C



economics through information visualization techniques. instrumentation of facilities for fuel electric power