AUERMAN, L.Ya.; MASLIKHOVA, G.D.; OSTROVSKIY, Ya.G.

Determining the baking quality of purified whole rye flour by the electroconductivity of the water-flour suspension. Trudy MTIPP 4: 19-21 '56. (MLRA 9:10)

(Flour) (Rye)

OSTROVSKIY, Ya.G.

Investigating the electric contact baking of wheat bread. (MLRA 9:10)
Trudy MTIPP 4:71-81 '56.

(Baking)

ARKHIPOV, Vladimir Vasil'yevich,; KASENKOV, Mikhail Aleksandrovich; LARIN, Moisey Mirsonovich, doktor tekhn.nauk, prof.; OSTROVSKIY, Yakov Il'ich,; POGODINA-ALEKSEYEVA, Kseniya Markovna,; SOKOLOV, Nikolay Vasil'yevich,prof.; SHEVCHENKO, Gennadiy Dmitriyevich,; SHUKHOV, Yuriy Vladimirovich,; GLIKIN, B.M., dots.,red.; BHUSHTEYN, B.Ye., dots.,kand. tekhn. nauk, red.; UVAROVA, A.F., tekhn.red.; SOKOLOVA, T.F.,tekhn. red.

[Technology of metals]Tekhnologiia metallov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 767 p. (MIRA 11:12)
(Metals)

OstRovskiy, Ya. I.

GOLOVLEV, V.D., dotsent, kandidat tekhnicheskikh nauk; DMITRIYEV, N.A., kandidat tekhnicheskikh nauk; KASENKOV, M.A., dotsent, kandidat tekhnicheskikh nauk; OSTROVSKIY, Ya.I., inzhener; TAMBOVTSEV, S.P., dotsent, kandidat tekhnicheskikh nauk; YUSAYEV, L.S., kandidat tekhnicheskikh nauk; SHEPTUNOV, K.L., dotsent, kandidat tekhnicheskikh nauk.

"Metallurgy." A.N.Gladilin and others. Reviewed by V.D.Golovlev and others. Vest.mash. 34 no.11:103-106 N '54. (MLRA 7:11)
(Metallurgy) (Gladilin, A.N.)

OSTROVSKIY

SOV/1337

PHASE I BOOK EXPLOITATION

25(1)

Arkhipov, Vladimir Vasil'yevich; Mikhail Aleksandrovich Kasenkov; Moisey Nissonovich Larin; Yakov Il'ich Ostrovskiy; Kseniya Markovna Pogodina-Alekseyeva; Nikolay Vasil'yevich Sokolov; Gennadiy Dmitriyevich Shevchenko; and Yuriy Vladimirovich Shukhov

Tekhnologiya metallov (The Technology of Metals) Moscow, Mashgiz, 1958. 767 p. 10,000 copies printed.

Eds. (Title page): Sokolov, N.V., Professor and Larin, M.N., Doctor of Technical Sciences, Professor; Eds. (Inside book): Glikin, N.M., Docent; and Brushteyn, B.Ye., Candidate of Technical Sciences, Docent; Tech. Eds.: Uvarova, A.F.; and Sokolova, T.F.; Managing Ed. for Literature on Metal Working and Machine- Tool Manufacture (Mashgiz): Beyzel'man, R D., Engineer.

PURPOSE: This book is intended for students at vtuzes specializing in fields other than machine building.

COVERAGE: This is a textbook presenting basic data on the structure and properties of metals and alloys, as well as methods of producing and processing them.

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The Technology of Metals

Such matters as casting, forging, welding, and heat treatment are discussed. Modern equipment for all types of metal treatment is described. The seven broad divisions of the book are as follows: metallurgy of ferrous and non-ferrous metals; essentials of physical metallurgy and heat treatment; casting; metal forming; welding and flame cutting; machining; nonmetallic materials. N personalities are mentioned. There are 33 references, all Soviet.

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The Technology of Metals

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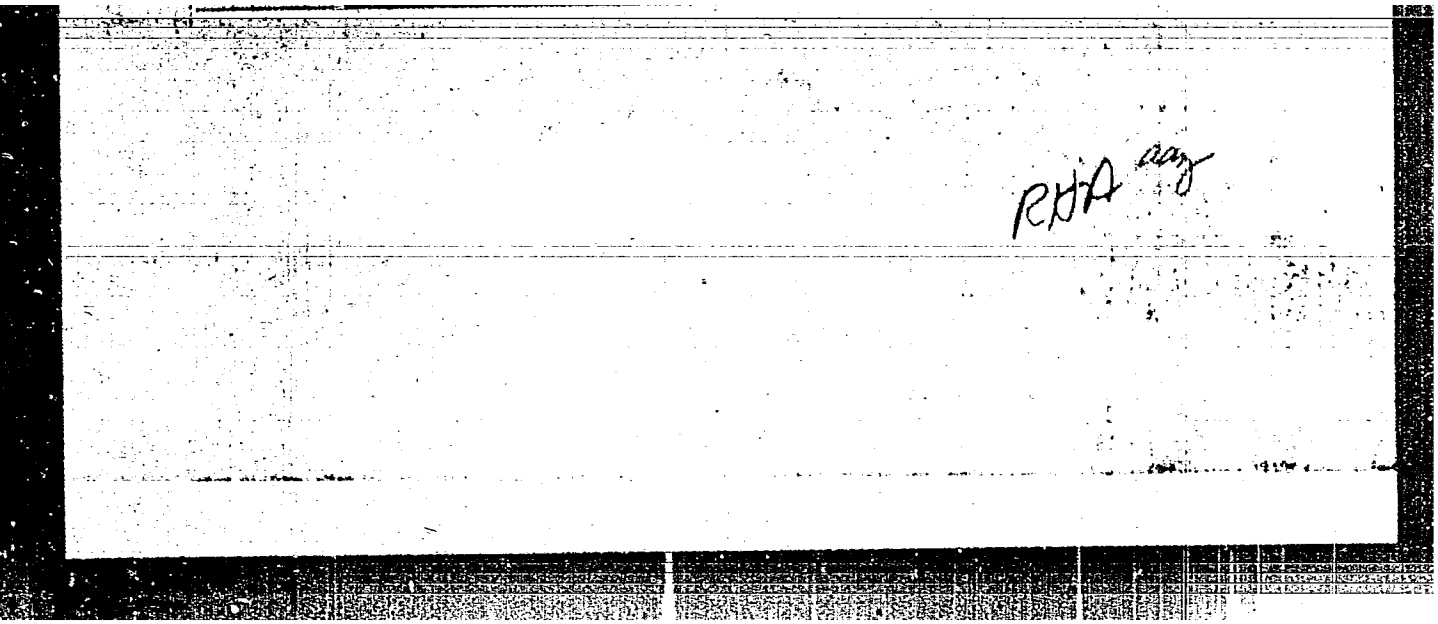
The Technology of Metals

OSTROVSKIY, Yakim Khaymovich; RAZNIKOV, P., red.; POKHLEBKINA, M., tekhn. red.

[Motorbus, trolley bus, street car, taxicab]Avtobus, trolleibus, tramvai, taksi. Moskva, Mosk. rabochii, 1962. 90 p. (MIRA 15:9)

(Motorbuses) (Trolley buses) (Street cars) (Taxicabs)



OSTROVSKIY, Ya. M.

AID P - 1506

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 2/36

Authors : Kovalev, A. P., Prof., Maksimov, V. M., Dotsent, and Ostrovskiy, Ya. M., Eng.

Title : Ways of improving the performance of pulverized-fuel feeding equipment

Periodical : Elek. sta., 3, 7-11, Mr 1955

Abstract : The authors stress the importance of maintaining a uniform flow of firing processes, particularly under the rapidly developing automation of power stations. They describe the performance of the fuel feeders and point out the causes of irregularity in supplying fuel as well as its consequences. Twelve drawings and diagrams.

Institution: None

Submitted : No date

AID P - 2760

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 2/14

Authors : Nemov, A. P. and Ostrovskiy, Ya. M. Engs.

Title : Some results of operation of super-high pressure boilers

Periodical : Teploenerg., 9, 8-18, S 1955

Abstract : The installation and operation of 90 atm, 500° C boilers manufactured at the Taganrog Boiler Plant is reported. Details of the boiler design, the feed-water network, the furnace, the operation of the superheater are presented with diagrams and photographs. Eleven diagrams.

Institution : Main Central Power System and Moscow Power System

Submitted : No date

AID

Subject : USSR/Power Eng.

Card 1/2 Pub. 110-a - 2/17

Author : Nemov, A. P. and Ostrovskiy, YA. M., Engs, Main Central Power System and Moscow Power System

Title : Some results of the operation of turbine equipment with super-high characteristics

Periodical : Teploenergetika, 11, 6-16, 1955

Abstract : The authors describe in detail the 18 months operation of two 150,000 kw, 3,000 rpm, 170 atm, 550°C turbines of the SVK-150-1 type, manufactured by the Leningrad Metal Plant. The design defects and changes made during the operation are explained. Tables and curves show temperature and time data. The work of feeders and steam conduits is discussed in detail. The necessity for further improvement of the unit design is emphasized. Nine diagrams and photos.

AID P - 3881

Teploenergetika, 11, 6-16, N 1955

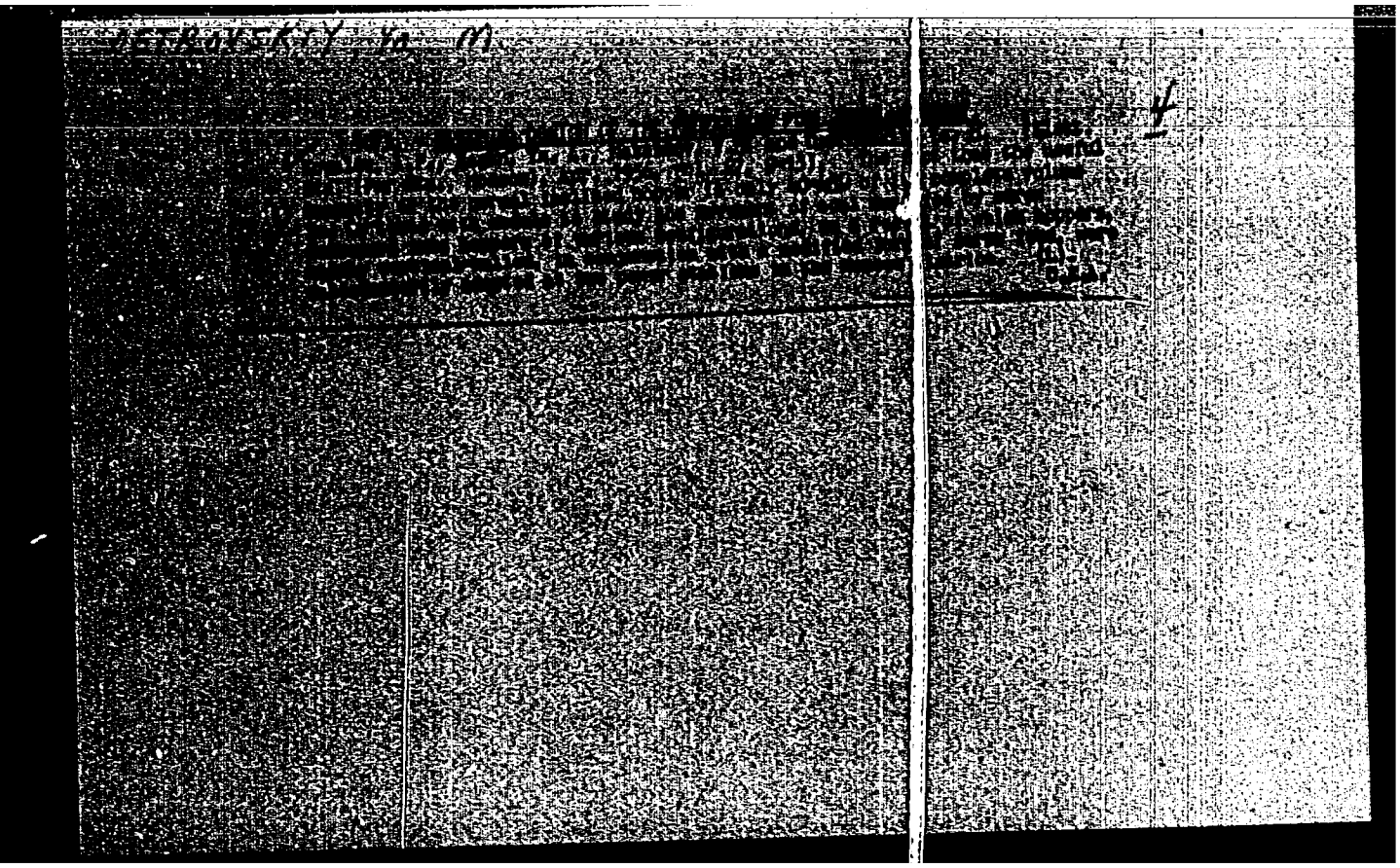
Card 2/2 Pub. 110-a - 2/17

Institution : None

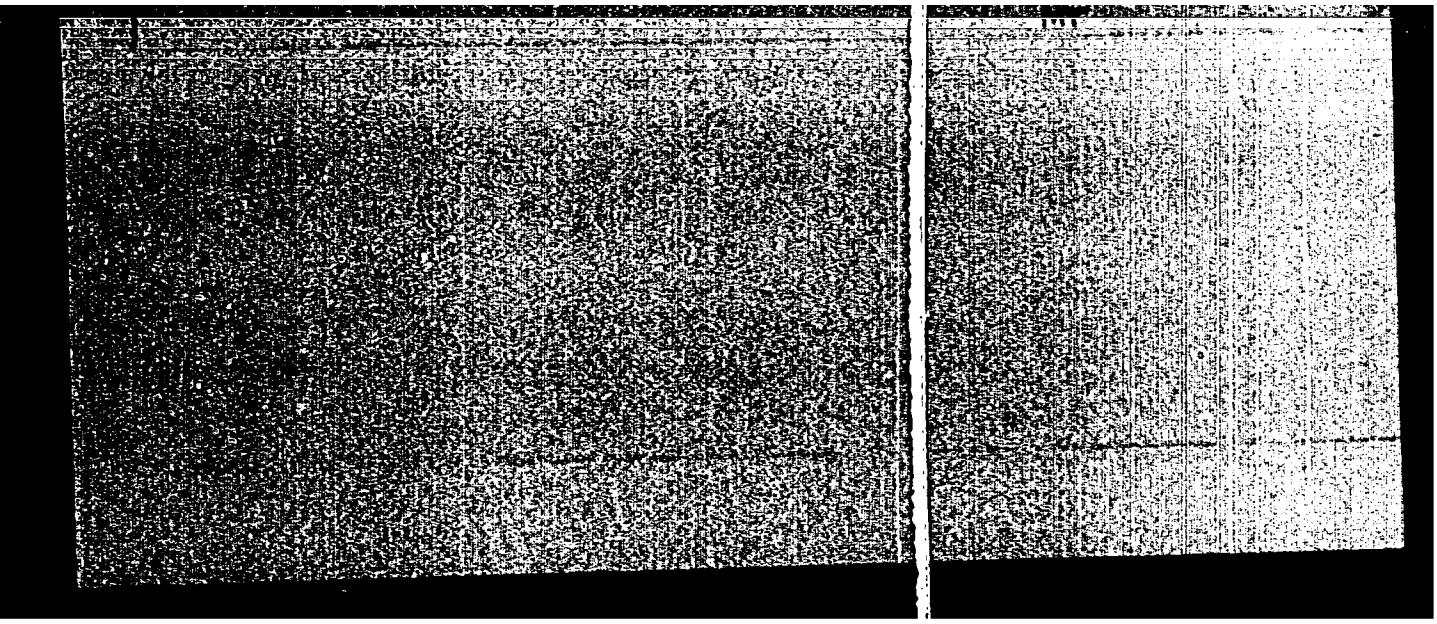
Submitted : No date

VASIL'YEV, N.S.; KASIMOV, V.I.; KALININ, G.A.; KUVAKIN, V.P.; MEDVEDEV, A.P.; FAYVILEVICH, Ya.A.; KHRIPUNOV, V.P.; YERMAKOV, D.A., redaktor; NEMOV, A.P., redaktor; OSTROVSKIY, Ya.M., redaktor; REL'SKAYA, D.D., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Experience in operating the Kashira Hydroelectric Power Station] Opyt ekspluatatsii Kashirskoi GRES. Moskva, Gos. energ. izd-vo, 1956. 179 p. (MIRA 9:9)
(Kashira Hydroelectric Power Station)



OSTROVSKIY, Ya. M. Cand Tech Sci -- (diss) " Study, construction and installation of the ~~system of~~ dust-feedin, M E I -Mosenergo, ~~with~~ Podmoskovniy coal dust." Mos,1957. 16 p 21 cm. (Min of Higher Education USSR. Mos Order of Lenin Power Engineering Inst im V.M. Molotov.) 100 copies. (KL, ~~NX~~ 23-57, 113)



APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001238520003-7"

AUTHOR: Kagan, Ya.A., Candidate of Technical Sciences, Ostrovskiy Ya.M., Engineer, Gerzhoy I.P., Engineer and Grachev S.V., Engineer. 114-6-8/11

TITLE: Modernisation of screw type dust feeders and dust feed assembly by the Moscow Power Institute - Mosenergo system. (Modernizatsiya schnekovykh pylepitateley i uzla pylepitaniya po sisteme MEI - Mosenergo.)

PERIODICAL: "Energomashinostroenie" (Power Generation Machinery Construction) 1957, Vol.3, No. 6, pp. 24 - 28 (U.S.S.R.)

ABSTRACT: The article describes briefly the main features of the latest version of the MEI Mosenergo pulverised fuel feed system. The screw immediately below the bunker is of gradually increasing diameter so that fuel is taken from the entire width of the bunker instead of just one part of it. The last few threads of the screw before delivery of the fuel are made of somewhat smaller pitch than the rest so that the fuel is compressed. This prevents fuel from the bunker from sliding through the screw faster than it ought to be delivered. To secure the best results the bunker walls should be made nearly vertical. In this way, the entire volume of the bunker is made active. The system has been described in previous articles. This

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Modernisation of screw type dust feeders and dust feed assembly by the Moscow Power Institute - Mosenergo 114-6-8/11
system. (Cont.)

article describes an installation installed in 1955 on a boiler with a steam output of 200 tons/h working on pulverised lean coal. Furnace and boiler performance figures measured a month before and a month after reconstruction are tabulated and show that before reconstruction the pressure deviated from the mean value by more than one atmosphere from 5 to 29 times a shift, and by more than two atmospheres from 1 - 8 times a shift; after reconstruction the deviations of more than one atmosphere were reduced in number to 0 - 5 and there were no deviations of more than two atmospheres. The temperature of the superheated steam was also much more constant. Various formulae are given relating to the design and performance of the screw type conveyor. The fuel feed system was completely reconstructed on one boiler whilst on a neighbouring boiler only the actual screw was changed. The boiler with the completely reconstructed fuel feed arrangement operates reliably with all dust feeders controlled automatically. The other has to have one or two of its dust feeders under hand control to maintain normal steam conditions. The steam conditions from this latter boiler are satisfactory but those of the first boiler are more uniform. In

Card 2/3

Modernisation of screw type dust feeders and dust feed assembly by the Moscow Power Institute - Mosenergo system. (Cont.)

114-6-8/11

September, 1956 the fuel feed arrangements were similarly reconstructed on a boiler type ТП-230 burning Moscow Basin brown coal. The results were just as satisfactory as when burning lean coal.

There are 4 figures, 2 tables and 6 Slavic references.

AVAILABLE:

Card 3/3

AUTHOR: Ostrovskiy, Ya. M. (Engineer).

TITLE: The investigation and modernisation of pulverised fuel supply systems for boilers with complex automation of their operation. (Issledovaniye i modernizatsiya sistemy pylepitaniya kotloagregatov pri kompleksnoy avtomatizatsiy ikh raboty).

PERIODICAL: "Teploenergetika" (Thermal Power), Vol.4, No.5, May, 1957, pp. 11-18 (U.S.S.R.)

ABSTRACT: In recent years automation of thermal processes has been considerably developed in the power stations of the Moscow and other power systems, and at present 99% of the boilers have automatic control of the combustion process and all boilers are fitted with automatic control of boiler feed. In introducing the automatic equipment a number of serious difficulties were encountered. These have been described in the literature and have been largely overcome but operating experience has shown that the best results can only be achieved with complex automation of all the operations. In making power stations automatic the greatest difficulties are caused by the process of fuel combustion; it is difficult to ensure uniform fuel supply. Tests on boilers showed that abnormal operation was mainly due to irregular delivery of pulverised fuel by the dust feeders. In some stations

The investigation and modernisation of pulverised fuel supply systems for boilers with complex automation of their operation. (Cont.)

it was found that no only was the staff not reduced after the introduction of automatic equipment but it sometimes even had to be increased mainly because individual parts of the equipment and particularly the dust feeders did not work well and were constantly in need of manual operation. Accordingly, the Moscow Power system and the Moscow Power Institute carried out a time study on work in the boiler house of a power station. It was found that much of the trouble was due to unsatisfactory operation of screw-type conveyors and this question was studied in the Institute Laboratories and under full-scale conditions. It was found that sometimes the pressure in the bunker outlet could be greater than the pressure in the delivery pipe from the screw conveyor to the air mixer. These high pressures at the bottom of the bunker were caused by the formation of deep cavities in the fuel in the bunker down which quantities of fuel occasionally fell. In falling, the fuel compressed the air in the cavity so forcing a mixture of fuel dust and air through the screw in much greater quantities than usual. Study of the motion of fuel in a bunker showed that fuel was only being picked up by the first turn of the screw thread. To take fuel uniformly from the full

The investigation and modernisation of pulverised fuel supply systems for boilers with complex automation of their operation. (Cont.)

width of the bunker a conical screw thread was made on the conveyor starting with a small diameter and increasing to a large one. A formula is given for the design of screws of this kind to ensure uniform speed. A further improvement in screw design which tends to prevent undesired flow of fuel through the screw is that the fuel is compressed in the last few turns of the screw by reducing the pitch. The modified screws were successfully used in power stations. However, this was of itself not sufficient and attention was then paid to the shape of bunker and as a result of tests on a model bunker with glass walls a bunker of improved shape was designed. Although the new bunker can accommodate 65 to 75% of the fuel that could be accommodated in an old type bunker of the same overall dimensions nevertheless in the new style bunker all the fuel is active and the old one only half. Power station operating experience is quoted giving good results with modified screws and bunkers.

Improvement in the furnace conditions made it possible to improve the other automatic equipment and the various steps that were taken and operating results

The investigation and modernisation of pulverised fuel supply systems for boilers with complex automation of their operation. (Cont.)

achieved are described. It is concluded that the fuel dust supply system of the Moscow Power Institute and Mosenergo gave positive operating results on dust of lean and Moscow-Basin coal during prolonged operation on two large boilers. Cases of clogging of dust in the bunkers and the formation of cavities ceased and the fuel is delivered uniformly to the furnace.

The new system of dust feed made it possible to effect complete automation of combustion and ensured high stability of automatic operation without interference from the staff. It is recommended that the system should be widely used with coals ranging from brown to lean. 15 figures, 5 literature references (Russian).

Card 4/4

OSTROV

NEMOV, A.P., inzh.; OSTROVSKIY, Ya.M., kand.tekhn.nauk; SAFRAZBEKYAN, insh.

Technical bases of the development of the Moscow Regional Power System Administration (Mosenergo) in the past 40 years. Elek. sta. 28 no.11:75-81 N '57. (MIRA 10:11)
(Moscow Province--Electric power)

UFAYEV, M.Ya., red.; NEMOV, A.P., red.; OSTROVSKIY, Ya.M., red.; SAFRAZBEKYAN, G.S., red.; MAKSIMOV, A.A., red.; LARIONOV, G.Ye., tekhn. red.

[Moscow Regional Power Authority during the last forty years] Mosenergo za 40 let. Moskva, Gos. energ. izd-vo, 1958. 335 p. (Moscow Province--Electric power) (MIRA 11:9)

SOV/[illegible]-1/

AUTHORS: Ostrovskiy, Ya. M., Candidate of Technical Scien[illegible], Kurkin, N.P., Kryukov, A.I., Tsyrkin, I.Z., Engineers

TITLE: The Operation of Thermal Power Stations in a System under Variable Load Conditions (Rabota teplovykh elektrostantsiy sistemy v usloviyakh peremennykh nagruzok)

PERIODICAL: Teploenergetika, 1958, Nr 8, pp 3-8 (USSR)

ABSTRACT: The load curve of Mosenergo power stations has always exhibited sharp peaks because of the large light industry, domestic and traction loads. Until the Moscow-Kuybyshev transmission line was opened in 1956, the base load was mainly covered by thermal stations, which made up 87% of the installed capacity. Small hydro stations took some of the peaks, and low- and medium-pressure stations were unloaded at off-peak hours. When large imports of power began to be taken from Kuybyshev, the conditions of electricity supply in Moscow and the central regions greatly improved. However, in order to avoid wasting water at Kuybyshev, load had to be taken as uniformly as possible throughout the day to the full capacity of two 400-kV transmission lines. Therefore, the load peaks on the thermal stations became much more marked; moreover,

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The Operation of Thermal Power Stations in a System under Variable Load Conditions

it was necessary to keep sets in reserve in case of failure of supply from Kuybyshev. The overall ratio of maximum to minimum load on the steam stations became about 2.4. Many sets and boilers had to be started up to meet the morning peak. Combined heat- and electric-power-supply turbines, which formed about 26% of the total capacity, could only be unloaded to the extent permitted by their heat loads; moreover, some stations had to burn excess gas, particularly in summer when the gas is less used for heating and cooking. Finally, the Cherepet' station, because it uses very-high-pressure sets of high efficiency, was kept on base load as far as possible. Therefore, on many thermal stations, the ratio of maximum to minimum load was up to 5, as indicated by the graph in Fig 1. In some cases stations had to be kept loaded to maintain the voltage in particular districts. When peat was specially plentiful, peat-fired stations were kept running. Load curves of a thermal station containing turbines type VK-100-2, (100 MW) with direct-flow boilers, and turbines VK-35 with drum-type

The Operation of Thermal Power Stations in a System under Variable Load Conditions

boilers, are given in Fig 2, the steam conditions being 60 atm 485°C. Further effects of supplies from Kuybyshev are seen in the following figures for the annual number of hours of utilisation of installed capacity: 1955, 6971; 1956, 6358; 1957, 4507. The reliability and quality of power supply was, however, much improved when power was received from Kuybyshev. Because there was more reserve plant, more attention could be paid to maintenance and reconstruction work and the number of faults was much reduced. Turbines and boilers could then be run for longer periods without stopping, as will be seen from Table 1, which shows, for different years, the number of sets not requiring major overhaul. Some small inefficient turbines were converted to back-pressure operation. The way in which a 17,600-kW Metropolitan-Vickers turbine was reconstructed for back-pressure operation is shown in Fig 4. Curves of the installed capacity and rise in output of high- and super-high-pressure sets are given in Fig 3. The increase in the number of times boilers were started up will be seen from Table 2, tests were accordingly made to cut down the time required to bring turbines and boilers on load. Because of the need to keep sets in running

The Operation of Thermal Power Stations in a System under Variable Load Conditions

reserve, many had to work on very light loads, causing various problems, which are explained. Economy in feed water on high-pressure sets was important. As a result of tests made, the distribution of load between equipment within a given station and between stations was reviewed. It was found that most medium- and high-pressure sets could be made to work indefinitely at the lightest loads without disconnecting the regenerative heaters. This facilitated taking up load. It was more difficult to run boilers on light load. However in every case when the Kuybyshev station became disconnected the load was successfully taken up without serious frequency drop. Barring gear was installed on many medium-pressure turbines. Special efforts were made to keep to a minimum the number of sets in running reserve, but the possibilities were limited by the need to maintain voltage in particular parts of the system. Data on the number of starts made in 1955-57, mainly to regulate the system load on suburban stations, are given in Table 3. The amount of fuel

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The Operation of Thermal Power Stations in a System under Variable Load Conditions

consumed in starting-up rose from 4000 tons in 1956 to 8000 tons in 1957; hence the importance of making rapid starts. Despite the more severe operating conditions that resulted from the accentuated peaks in the load curve, the power stations operated reliably, the technical and economic efficiencies of the power system as a whole were improved, and the reserve was sufficiently flexible when faults occurred on the Moscow-Kuybyshev transmission line.

Card 5/5

There are 4 figures and 3 tables.

ASSOCIATION: Mosenergo

1. Steam power plants--Performance

SOV/[illegible]-6/[illegible]

AUTHORS: Ostrovskiy [illegible], (Candidate of Technical Sciences), Kurkin [illegible], Kr[illegible] A.I., [illegible] Tsyrk[illegible] I.Z. ([illegible])

TITLE: Re[illegible] (S[illegible]ras[illegible] vreme[illegible])

PERIODICAL: Teploenergetika, [illegible], Nr [illegible], pp [illegible] (USSR)

ABSTRACT: [illegible] Kuybyshev [illegible] [illegible] graphs of [illegible] (1 hour 45 [illegible]) [illegible] ([illegible] hours 45 minutes) starts on a [illegible] boiler type TP-[illegible]0. [illegible] [illegible] for about [illegible]2 hours. Starting [illegible]

Card 1/6 [illegible]

SOV/[illegible]-5[illegible]-[illegible]/1

Reducing the Standing-time of Boilers and Turbines

[illegible] with burners. It is necessary to protect [illegible] heaters against [illegible] super-heater temperature regulation [illegible] starting. [illegible] around the [illegible] recovery [illegible] starting of a boiler [illegible] TP-230 [illegible] of steam [illegible] of about 100°C [illegible] in Fig 3. [illegible] 100°C [illegible] barriers inside it. A device was [illegible] with sheet from [illegible] of these boilers could then be raised [illegible] maximum temperature difference of 30°C [illegible] super-heaters were cooled by [illegible] main difficulty was to maintain the super-heater steam temperature within bounds. The simplest method of protecting the super-heaters was to use the mill fan to

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Reducing the Starting-time of Boilers and Turbines

blow air into the furnace through mist sprayers and to blow down the super-heater with condensate. A graph of an accelerated start on a high-pressure drum-type boiler burning Moscow Basin coal is given in Fig 4. Firing was commenced with fuel oil. The greatest temperature difference on the drum was 70°C, and the fuel oil consumption was 2.5 tons less than usual. At present all boilers are kept in hot reserve overnight. The best procedure for keeping boilers in hot reserve was sought by tests in which a high-pressure boiler was left connected to the steam main and fired by two fuel-oil nozzles. The draught fans and auxiliary equipment were stopped and the boiler worked on natural draught. A boiler in this condition can be brought on to load very quickly but it is rather wasteful of fuel. Tests were also made with a boiler left connected to the steam mains but unfired. Various schemes were worked out with this boiler which was in reserve for four and a half hours. The steam temperature dropped from 500°C to 390°C but was raised to full temperature in about 15 minutes. Comparative tests on thermal losses before improving the thermal insulation

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SOV/[illegible]

Reducing the Starting-time of Boilers and Turbines

at one power station are given in Table 3. The table shows that a high-pressure boiler may be started in two hours from the cold and in 45 minutes after being in reserve overnight without risk of damage and with considerable saving of fuel. Some two or three hours before commencing firing a cold boiler it is advisable to fill the drum with hot feed-water, so raising the wall temperature to 50 - 150°C. When the furnaces are fired for purposes of accelerated starting special attention must be paid to heating the screens uniformly; to this end a large number of burners must be used and they should be well distributed around the furnace. Despite earlier work the time required to start up a turbine remained excessive. For instance, according to the works' instructions a turbine type VK-100- takes 13.5 hours from the cold and a turbine SVK-100, 50 - 60 hours. Two methods were used to cut the time: accelerated starting with rated steam conditions, but quicker individual operations; and starting the turbine whilst raising steam in the boiler. After many tests with thermo-couples fitted to turbines it became possible to

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Reducing the Starting-time of Boilers and Turbines

regulate the starts by the thermal conditions of the turbine rather than by a fixed time-table. According to the 1956 manufacturers' instructions the time required to start and put on load a turbine VK-100-2 was already cut to 9½ hours. Recent recommendations have cut this time by a further two hours, and the present conditions will be seen from the time chart in Fig 5. During 1957, tests were made on starting turbines in the Moscow power system whilst steam was being raised in the boilers. The circuits used to isolate a boiler-turbine unit are given in Figs 6 and 7. In other tests the turbine was started with steam of reduced temperature and pressure, derived from the normal steam mains. It was found possible to cut the turbine starting times to about half of the former values. Details are given of the starting times required after the turbine had been standing for various periods. It is particularly difficult to start a boiler-turbine set as a unit after standing 5 - 7 hours overnight, because the turbine and boiler cool at different rates. The risk of

 passing cold steam into a hot turbine can be overcome by first raising the temperature and pressure in the boiler

Reducing the Starting-time of Boilers and Turbines

somewhat. Unit starts with reduced steam conditions are now becoming fairly common. In making accelerated starts the condition of the thermal insulation on the turbine is very important. It should be possible to reduce still further the time required to start up boilers and turbines.

There are 7 figures, 2 tables, no literature references.

ASSOCIATION: MOSENERGO

1. Boilers--Operation 2. Turbines--Operation

Card 6/6

AUTHOR: Girshfeld, V.Ya. (Cand.Tech.Sci.) SOV/96-58-10-1/25
Ostrovskiy, Ya.L. (Cand.Tech.Sci.)
Belinskiy, S.Ya (Cand.Tech.Sci.)
Belyanin, P.A. (Engineer)

TITLE: The availability of reserve generating plant in thermal power stations. (O mobil'nosti vrashchayushchegosya rezerva na teplovykh elektrostantsiyakh)

PERIODICAL: Teploenergetika, 1958, No 10, pp 3 -

ABSTRACT: With the advent of supply to Moscow from Kuybyshev, it became necessary to maintain adequate reserve plant in order to safeguard against transmission break-downs. The reserves are partly in thermal and partly in hydro-electric stations; the proportion of load picked up by the latter has varied from 32 to 80%. The rate of take-up of load at the main hydro-electric stations was as follows: from half to full load, 10 - 15 seconds from no load to full load, 25 - 30 seconds. Therefore, sufficient reserve must be available in thermal stations to accept load instantly and so safeguard the frequency. Rates of load take-up at a steam-driven station are given in Table.1. for various types of boilers and rates of steaming. The pressure-drop in the boilers is related to the magnitude of the steam demand in Fig.1. Analysis of data for particular sets shows that in practice there are three types of load take-up, as shown in Fig 2: the load may fall to the initial value; it may fall part way; or it may remain constant.

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The availability of reserve generating plant in thermal power stations SOV/96-58-10-1/25

The load may drop again to its initial value after suddenly being taken up because of manual intervention to prevent overloading. The proportion of initial load take-up that was maintained in particular cases when both transmission lines failed is given in Table 2. The method of determining the pressure drop in a boiler when the load on the turbines is suddenly increased is then explained with reference to Fig.3; a formula is derived for the accumulator capacity of drum-type boilers. Calculations made for different types of boilers by means of this formula gave the results seen in Table.3. The relationship between the boiler accumulator capacity and the product of water volume and rated pressure is plotted in Fig.4: the graph is linear. Special tests were made at power stations to determine the maximum permissible rates of load take-up. The results are given in Table.4. The main condition that limits the rate of load take-up in medium-pressure boilers was the rise of water level in the drum. Graphs of the rate of steady load take-up for 50 - and 100 - MW turbines operating with boilers type TP-230 are given in Fig.5. The method of construction is explained; worked examples of determination of rate of load pick-up are given with reference to Figs. 6 & 7.

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The availability of reserve generating plant in thermal power stations. SOV/96-58-10-1/25

It is concluded that in a number of thermal stations when a fault occurs the load is not taken up quickly enough and not all the reserve generating capacity is immediately forthcoming.
There are 7 figures and 4 tables.

ASSOCIATION: Moscow Power Institute - Mosenergo (Moskovskiy Energeticheskiy Institut - Mosenergo)

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SOV/[illegible] 1/15

AUTHORS: Ostrovskiy, Ya.M., Candidate of Technical Sciences
Chernova, L.A., Engineer
Aseyeva, A.V., Engineer

TITLE: Operating Experience with Demineralising Installations (Opyt ekspluatatsii obessolivayushchikh ustanovok)

PERIODICAL: Teploenergetika, 1959, Nr 2, pp 69-79 (USSR)

ABSTRACT: The first part of the article briefly reviews the water demineralising installations at power stations of the Mosenergo system since the first installation at Heat and Electric Power Station Nr 8 in 1941 up to the present time when there are five such water purification installations working. The schematic diagrams of the different water treatment plants are given in Fig 1 and each is briefly described. Analyses of the various waters that are demineralised are given in Table 1. Operation of the various main plant components is then described in turn, starting with first stage H-cationite filters, performance data on which are given in Table 2. The operation of first stage anionite filters is then described and performance data are given, see also Table 3.

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Operating Experience with Demineralising Installations

The importance of completely removing free carbonic acid from the water is stressed. The operation of highly basic anionite filters is then considered; it will be seen from the data given in Table 4 that the demineralised water contains extremely small amounts of silica and other dissolved substances so that water purified in this way can be used both for super high pressure drum type boilers with injection de-superheating and also for once-through boilers. The operating characteristics of anionite grade AV 16 are given in Table 5, its main defect is low mechanical strength. Changes in water conditions that have been observed when starting to use demineralised water for boiler feed are then discussed; the main information being given in Table 7. It will be seen that the total salt content of the feed water and steam remained practically unchanged but after the introduction of demineralisation the silica content was reduced by a factor of 3 to 4. As a result deposits on turbine blades were much reduced. Economy also resulted from reduced blow-down.

Card 2/4 The results achieved with a simplified demineralisation

Operating Experience with demineralising installations

system on boilers type [illegible] are given in Table 4. boiler blow-down was less and the consumption of sodium phosphate was reduced. It is concluded that the use of the full demineralisation system gives feed water that is fully satisfactory for both drum and once-through boilers of high and super-high pressures. Further such installations are being made. The simplified demineralisation circuit in which the absorption of anions of strong acid and of silica is combined in one filter containing the highly basic anionite EDE-10P has little future for the preparation of feed water for high-pressure boilers because desilication and demineralisation is not complete enough and the water is not fit to use for de-superheating injection. When the necessary anionites are being made on a large scale the simplified system may be suitable for preparing water for medium pressure boilers when the raw water is of comparatively high mineral content. In order that more general use may be made of demineralisation it is necessary to extend the regular production of anionites, paying particular attention to improvements in the

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V/[illegible]-1/4

'Operating Experience with Demineralising Installations

mechanical strength. Better methods of removing organic substances from water to be demineralized are required. Further investigation is required into the reasons why anionites lose exchange capacity in service. Various improvements that are required in demineralisation systems are briefly described. There are 3 figures and 9 tables.

ASSOCIATION: Losenergo

Card 1/4

ZELYANSKIY, Grigoriy Ivanovich; OSTROVSKIY, Yakov Moiseyevich; RADOMSKIY, Yevgeniy Aleksandrovich; SHUKHER, S.M., red.; BORUNOV, N.I., tekhn. red.

[Modernization of boiler units] Modernizatsiia kotel'nykh agregatov. Moskva, Gosenergoizdat 1962. 159 p. (MIRA 15:5)
(Boilers)

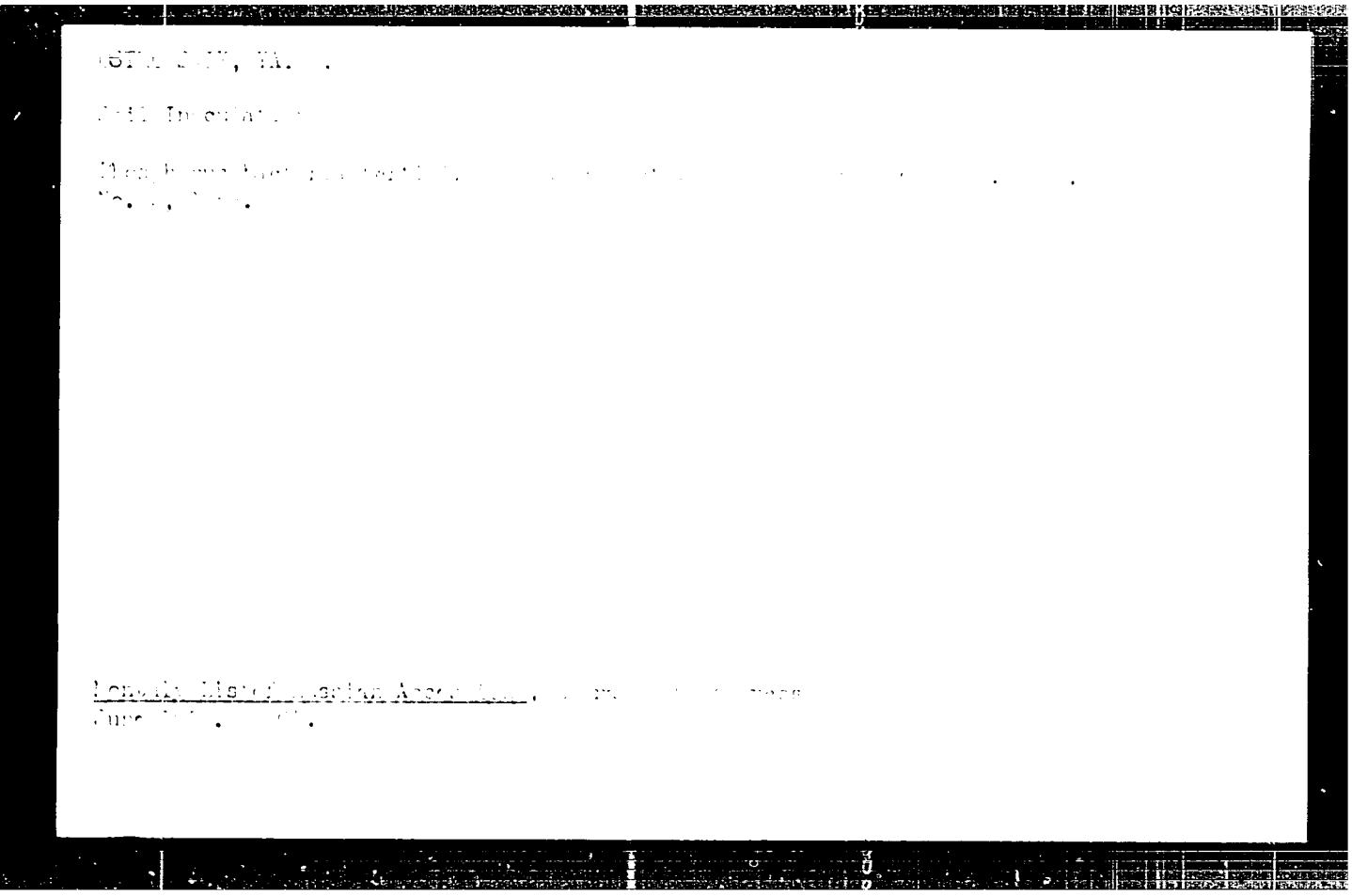
OSTROVSKIY, Ya.M. [Ostrovs'kyi, IA.M.]; SERDYUKOV, I.I.; KATS, Yu.M.; KOZACHUK, A.I.; TURZHANSKIY, Yu.V. [Turzhans'kyi, IU.V.]; SNIGUR, I.I. [Snihur,I.I.]; KIRILLOVSKIY, G.S. [Kyryllovs'kyi, H.S.]; BRON, S.S.; PESIS, Ye.I. [Pesis,E.I.]; SHUL'GA, A.M. [Shul'ha,A.M.]

Proposals of efficiency promoters. Leh.prom. no. 4:81-88 O-D '63. (MIRA 17:5)

1. Khar'kovskaya obuvnaya fabrika (for Ostrovskiy, Serdyukov, Kats). 2. Zhitomirskaya obuvnaya fabrika (for Kozachuk, Turzhanskiy, Snigur). 3. Kiyevskaya obuvnaya fabrika No. 6 (for Kirillovskiy, Bron, Pesis, Shul'ga).

OSTROVSKIY, Ya.N.; SNAGADOVA, V., inzh., red.

[Controlling the sanding up of oil wells in the oil fields of Turkmenistan] Bor'ba s probkoobrazovaniem v neftianykh skvazhinakh na ploshchadiakh Turkmenii. Ashkhabad, Turkmenovoizdat, [illegible] p.



OSTROVSKIY, Ya.A., inzhener.

Sinking a water well with the aid of hydraulic machinery. Elek.sta. 27 no.4:53 Ap '56. (MLRA 9:8)

(Wells)

GALENCHIK, Ivan Zakharovich, kand.tekhn.nauk; ZHUK, Yefim Afanas'yevich, kand.tekhn.nauk; OSTROVSKIY, Yakov Naumovich, agronom; TEREGULOV, Ivan Kharitonovich, inzh.; KAZACHENOK, V., red.; KALECHITS, G., tekhn.red.

[Winning peat and its uses in agriculture; a reference manual] Dobycha i ispol'zovanie torfa v sel'skom khozyaistve; spravochnoe posobie. Minsk, Gos.izd-vo BSSR. Red.sel'khoz.lit-ry, 1959. 231 p. (MIRA 13:4)
(Peat) (Fertilizers and manures)

SOV/130-58-8-3/18

AUTHORS: Dunayev, N.Ye., Ostrovskiy, Ye.G., Engineers and Popov, N.N., Candidate of Technical Sciences

TITLE: Smelting Steel-making Pig Iron with Complete Elimination of Manganese Ore from the Charge (Vyplavka peredel'nogo chuguna s polnym vyvodom iz shikhty margantsevoy rudy)

PERIODICAL: Metallurg, 1958, Nr 8, pp 8 - 10 (USSR)

ABSTRACT: Following the lead of the Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine) efforts were made in the southern iron-making region of the USSR to produce low-manganese pig iron. The comparatively high coke rates and sulphur contents in the coke in the south made this difficult but the Stalinskiy metallurgicheskiy zavod (Stalino Metallurgical Works) succeeded in 1955 - September, 1957 in reducing manganese-ore consumption by 60-70%, furnace productivity rising by 6%, coke rate and the cost of 1 ton of iron falling by 6% and 15-20 roubles, respectively. After a transition period, the manganese in the iron was reduced still further from 0.8-1.2 to 0.22% with further improvements in operation (table gives the main parameters for 1956 - December, 1957). It was found unnecessary to have more than 3.0-3.5% magnesia in the slag with a CaO/SiO_2 ratio of 1.28-1.30 and

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SOV/130-58-8-3/18

Smelting Steel-making Pig Iron with Complete Elimination of Manganese Ore from the Charge

not less than 5-10% alumina. The favourable effect of smelting manganese ores is attributed partly to the improvement in the slag formation characteristics with better permeability of the stock column. The authors list the measures required for successful smelting of low-manganese iron under the conditions at the Stalino Works (including additional blast heating to 750-800 °C) and analyse operating data for a week in September, 1957 (Figures 1 and 2). These show that with more blast heating and higher basicity, the sulphur content of the iron falls and iron temperature rises. An editorial note suggests that experience at the Ineni Dzerzhinskiy Works shows that slags with 5.0-5.5% alumina are satisfactory if they contain 5.5-6.0% MnO, their CaO/SiO_2 ratio = 1.28-1.30 and $(CaO + MgO + MnO)/SiO_2$ = 1.45 - 1.48.

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SOV/130-58-8-3/18

Smelting Steel-making Pig Iron with Complete Elimination of Manganese Ore from the Charge

There are 2 figures and 1 table

ASSOCIATION: Stalinskiy metallurgicheskiy zavod (Stalino Metallurgical Works)

1. Iron--Processing 2. Steel--Production 3. Manganese ores --Separation 4. Slags--Performance

Card 3/3

L 45255-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pt-7/Pab-10 IJP(c) G5
ACCESSION NR: AT5007933 S/0000/64/000/000/0440/0443

AUTHOR: Vishnyakov, V. A.; Grishayev, I. A.; Zykov, A. I.; Ostrovskiy, Ye. K.

TITLE: Injector electron accelerator with wave of constant phase velocity

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 440-443

TOPIC TAGS: high energy accelerator, traveling wave electron accelerator, phase velocity, waveguide

ABSTRACT: The characteristics of linear high-energy electron accelerators (LUE) are mainly determined by the parameters of the accelerated beam after the injector portion of the accelerator. The injector accelerator is intended to form a relativistic current of electrons (energy 5 to 6 Mev) with diameter 4 to 6 mm not diverging more than 10^{-3} radian. The energy spread of the accelerated electrons must

prerequisites. The present report discusses the injector accelerator with wave of

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L 45255-65
ACCESSION NR: AT5007933

constant phase velocity that is close to the speed of light. The accelerating system of such an injector can be constructed from the same elements as are the principal accelerating sections, and it is easy to obtain small variations in the phase velocity of the wave after calculation of the variation in the iris waveguide temperature. If the above-stated requirements are provided for in the injector accelerator with wave of constant phase velocity, then this accelerator's advantages over waveguide groupers, which have a wave of variable phase velocity, are obvious. Besides simplicity of design and manufacture, the injector accelerators with wave of constant phase velocity are less sensitive to variation in the current load, and their frequency may be adjusted in a range of several mc, maintaining their characteristics and not requiring especially close tolerances during construction. The

the wave's phase velocity in transition section and in the ...

Card 2/4

L 45255-65
ACCESSION NR: AT5007933

Experimental and theoretical studies of the processes of parasitic modulation have given their quantitative characteristics and established the criteria for the selection of transition parameters which practically eliminate these processes. Completely satisfactory phase-energy and current characteristics of the accelerated beam have been achieved. The report discusses in further detail the design of an injector electron accelerator; its pertinent investigations into frequency cha-

field's potentials, and influence of current charge, the quantities calculated

the accelerator's beam: 10-μamp average current (120 ma/pulse), 6.5-Mev particle energy, 8% energy spread, 3-mm radius, beam divergence 10^{-3} radian. It is concluded that injector electron accelerators with constant wave phase-velocity are completely competitive with and as capable as waveguide grouper accelerators with variable wave phase-velocity. Orig. art. has: 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR (Physico-technical Institute, AN UkrSSR)

Card 3/4

OSTROVSKIY, YE. K.

L 10752-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-10/Pab-24 IJP(c)/AFETR/ESD/SSD/
ESD(gs)/AEDC(a)/ESD(t)/AFWL
ACCESSION NR: AP4046356 S/0057/64/034/010/1903/1905

AUTHOR: Grizhko, V.M.; Vishnyakov, V.A.; Grishayev, I.A.; Yeremenko, Ye.V.; Kuznetsov, G.F.; Ostrovskiy, Ye.K.; Khvorostenko, V.I.

TITLE: A 40 MeV linear electron accelerator

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.10, 1964, 1903-1905

TOPIC TAGS: linear accelerator, electron accelerator

ABSTRACT: The authors briefly describe a linear accelerator which, operating at 2797.2 Mc/sec, produces 1.5 microsec, 80 mA pulses of 40 MeV electrons at repetition rates of up to 50/sec. The electrons are produced in a two-electrode gun with a tantalum cathode and are accelerated to 5 MeV in an 83 cm long injector containing an experimentally adjusted longitudinal magnetic field for focusing. The principal accelerator is a 450 cm long constant phase velocity iris waveguide. Each of the two sections is fed through a 72 x 34 mm² vacuum waveguide by a 20 megawatt klystron amplifier, each excited by the same magnetron oscillator. The working vacuum of better than 5 x 10⁻⁶ mm Hg is maintained by a battery of titanium pumps. The beam energy can be smoothly varied from 5 to 40 MeV by varying the power supplied to the

1/2

L 10752-65
ACCESSION NR: AP4046356

principal accelerator. The energy spread of the beam at half maximum is 3.6%, and the diameter of the beam is 6 mm. The installation requires 60 kW of power and 4 m^3/hour of cooling water. "The authors express their sincere gratitude to F.S.Gorokhovatskiy, Yu.M.Nazarov, V.P.Mufel' and L.S.Dovbush for their participation in the adjustment of various assemblies of the installation." Orig.art.has: 3 figures.

ASSOCIATION: none

SUBMITTED: 16Jan64 ENCL: 00

SUB CODE: NP NR REF SOV: 005 OTHER: 000

2/2

25112
S/109/60/005/012/010/035
E192/E482

9,1310

AUTHORS: Zykov, A.I., Tkachenko, V.D. and Ostrovskiy, Ye.K.

TITLE: Pulse Measurement of the Reflection Factor of a Periodic Waveguide

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.12, pp.1933-1936

TEXT: The paper presents a method and experimental results of measuring the reflection factor of a diaphragmed waveguide under pulse conditions. It is found that the distortion of the pulse envelope in such a waveguide 3.5 m long is very severe and the SWR measured under stationary conditions does not reflect the true situation. The envelope settling time is much greater than the pulse duration (2 μ sec). The form of pulse reflected back to the input of the waveguide at various frequencies is shown in Fig.3. Under such conditions, the SWR measured by a pulse method can only have a formal significance; in the present paper the SWR was measured at the centre of the pulse. Under these conditions, differences of up to 35% between the pulse and stationary SWR's were found. There are 3 figures and 1 table.

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S/109/60/005/012/010/035
E192/E482

Pulse Measurement of ...

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR
(Physicotechnical Institute AS UkrSSR)

SUBMITTED: February 29, 1960

Fig.3.

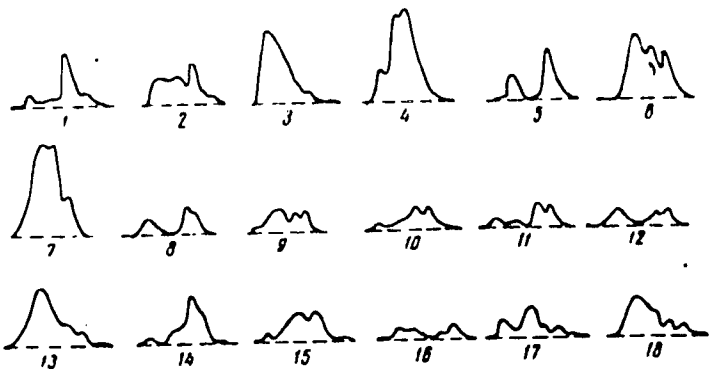

Рис. 3. Форма отраженного импульса на входе диафрагмированного волновода при различных частотах

Card 2/2

L 13045-63 EWT(1)/EDS/EEC(b)-2 AFFTC/ASD/ESD-3 LJP(C)
ACCESSION NR: AP3001335 S/0057/63/033/006/0735/0738

AUTHOR: Ostrovskiy, Ye. K.; Zy"kov, A. I.; Kononenko, S. G.; Makhenko, L. A.; Dem'yanenko, G. K.; Manovets, Yu. A.; Rubtsov, K. S. 13 62

TITLE: Investigation of a shaping section with constant phase velocity for wave propagation

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 735-738

TOPIC TAGS: electronics, linear accelerators

ABSTRACT: The axial motion of electrons in a loaded waveguide in which the phase velocity for wave propagation is constant along its length was calculated by the method of J. Swiharta and E. Akeley (J. Appl. Phys., 24, 5, 1953). The waveguide is intended to be the initial section of an electron linear accelerator. The calculations were performed for a section 83 cm long excited to an electric field strength of 67.5 kV/cm and with the electrons injected at an energy of 80 keV. The results are displayed as a family of curves giving the exit electron energy as a function of the entrance phase for different values of the phase velocity from 0.91c to 0.99c. From these results, and taking into account the resolving power of a specific magnetic analyzer, the average energy of the electrons at maximum current in the bunch and the current at maximum density

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L 13045-63
ACCESSION NR: AP3001335

were calculated as functions of the phase velocity. These calculated results do not agree with the experimental data. The experimental data indicate that capture and acceleration occur in a much narrower range of phase velocities. The divergence between experiment and the calculations is ascribed to end effects in the input junction, which is an H sub 10 to E sub 01 transformer similar to the Stanford variant. The effect of putting inserts in the final waveguide cavity at the junction wall was investigated, and an insert that greatly improves the operation was found. The authors do not consider such inserts to be a satisfactory solution, however, owing to their deleterious effect on the electric strength and because of the analytical complications they involve. Orig. art. has: 7 formulas and 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov (Physical-Technical Institute, AN USSR)

SUBMITTED: 21May62 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 005

Card 2/2

ACCESSION NR: AP3001336 B/0057/63/033/006/0739/0742

AUTHOR: Zykov, A. I.; Makhnenko, L. A.; Ostrovskiy, Ye. K.; Dem'yanenko, G. K.; Kononenko, S. G.; Rubtsov, K. S.; Kramskoy, G. D.; Mirel', V. B.

TITLE: Determination of the optimum frequency of a linear traveling-wave accelerator and investigation of the dependence of accelerated-particle energy on frequency

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 739-742

TOPIC TAGS: traveling-wave linear accelerator, phase velocity, group velocity accelerator, traveling-wave accelerator, linear accelerator

ABSTRACT: Simplified calculations of phase and group velocities of a traveling-wave linear accelerator using a septate waveguide section are suggested. These are based on the fact that in the case of small waveguide mismatch, i.e., when the VSWR is less than or equal to 1.1, it is possible to derive formulas for these respective parameters by applying the method of shifting the locations of VSWR minima by moving a shorting stub. This eliminates the need to plot complex circular diagrams. Since actual waveguides contain some inhomogeneities, it is necessary to average the standing-wave minimum displacements resulting from translation of the stub in the septate waveguide. The phase-velocity formula is

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ACCESSION NR: AP3001336

obtained by measuring the total linear displacement of the standing-wave minimum during the travel of the stub for the total number of resonators. This formula defines the dependence of phase velocity on frequency. Measurements made by this method for a septate waveguide with type $\pi/2$ oscillations, a source frequency stability of 10^{-7}, and a septate waveguide period equal to 2.677 ± 0.001 cm showed that for a phase velocity equal to light velocity a frequency of 2796.58 Mc represents the optimum frequency for this waveguide. A straightforward calculation from the phase-velocity formula yields the corresponding group velocity. As regards the dependence of accelerator output on frequency, it is assumed that random deviations of phase velocity are insignificant and that the whole of the waveguide is homogeneous. From this a formula for kinetic energy as a function of frequency is derived. For the waveguide described the relative kinetic energy decreases by a factor of approximately 10 for a frequency change from 2796.6 to 2799 Mc. It is concluded that for septate waveguides with small inhomogeneities the method described determines optimum frequency, and phase and group velocities with adequate accuracy for practical purposes, since the maximum relative error does not exceed ± 0.01%. Orig. art. has: 3 figures and 8 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN SSSR, Khar'kov (Physicotechnical Institute, AN SSSR)

Card 2/3

ACCESSION NR: AP3001336

SUBMITTED: 21May62 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: NS NO REF SOV: 001 OTHER: 004

Card 3/3

L 19079-63 EWT(m)/BDS/ES(w)-2 AFFTC/ASD/AFWL/IJP(C)/SSD Pab-4
ACCESSION NR: AP3003066 S/0057/63/033/007/0892/0894

AUTHOR: Zy*kov,A.I.; Ostrovskiy, Ye.K.

TITLE: Method of calculating the parameters of a constant phase velocity buncher

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 892-894

TOPIC TAGS: linear accelerator , buncher

ABSTRACT: The two total differential equations relating the (longitudinal) position of an electron in a constant phase velocity linear accelerator, its energy, and its phase with respect to the accelerating wave, are written down, with reference to work of E.Akeley and D.Caplan (J.Appl.Phys.,23, 774, 1952) and J.Swihart and E.Akeley (J. ppl.Phys.,24, 640, 1953). In the references cited, these equations are solved by a separation of variables which leads in the first instance to expressions for the energy and the position of the electron as functions of its phase. Because it is the relation between energy and position that is frequently of primary interest, the authors prefer a different separation of the variables that leads to expressions for the position and phase of the electron as functions

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L 19079-63
ACCESSION NR: AP4003966

of its energy. The solution of the differential equations by the preferred method is reduced to a quadrature. When the phase velocity of the accelerating wave is equal to the velocity of light, the integral is elementary, and it is evaluated. Otherwise, the integral reduces to incomplete elliptic integrals of the first and third kinds. The reduction is not given; the authors recommend numerical integration. Orig.art.has: 9 formulas.

ASSOCIATION: Fiziki-tekhnicheskiy institute AN UkrSSR, Kharkov (Physicotechnical Institute, AN UkrSSR)

SUBMITTED: 01Nov62 DATE ACQ: 07Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 002

Card 2/2

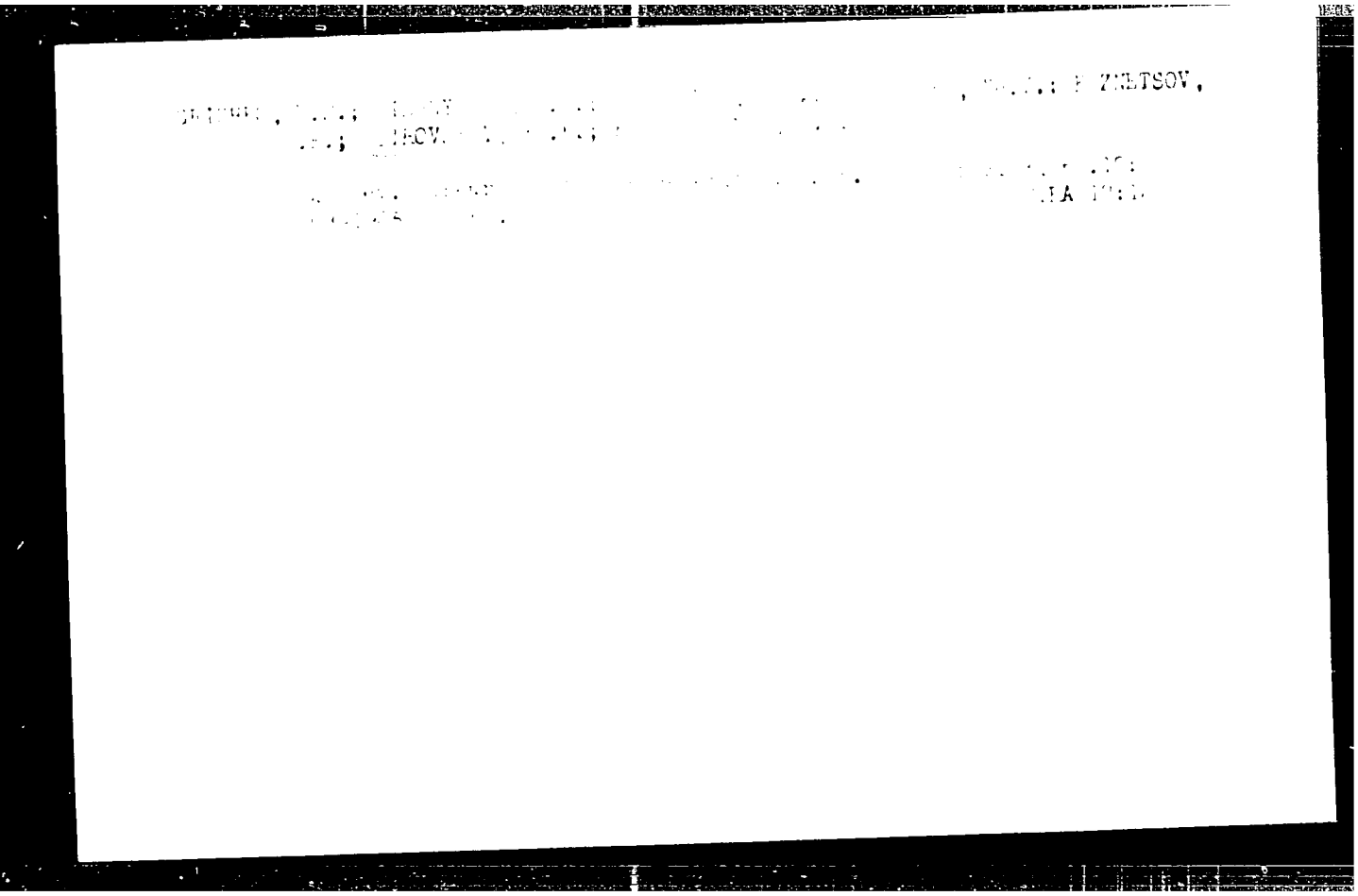
ZYKOV, A.I.; OSTROVSKIY, Ye.K.; MAKHNENKO, L.A.

Effect of the configuration of the electromagnetic field of the input transition on the dynamics of electrons in the grouping section with a constant phase velocity of the wave. Zhur. tekh. fiz. 33 no.9:1066-1069 S '63.
(MIRA 16:11)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov.

ZYKOV, A.I.; OSTROVSKIY, Ye.K.

Electron modulation in the input matcher of the shaper of a linear accelerator. Zhur. tekh. fiz. 39 no.1:149-153 Ja '64. (MIRA 17:1)



L 23813-65 EWT(m)/EPA(w)-2 Pab-10/Pt-10 IJP(c)
ACCESSION NR: AP5000846 S/0057/64/034/012/2188/2190

30
B

AUTHOR: Vishnyakov, V.A.; Ostrovskiy, Ye. K.

TITLE: Choice of the optimum phase velocity of the wave in a linear electron accelerator

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34., no. 12, 1964, 2188-2190

TOPIC TAGS: electron accelerator

ABSTRACT: As has been shown in earlier studies by the authors (Sb. "Uskoriteli" (Accelerators), Atomizdat, M. 1960) and others, short accelerators with a fixed phase velocity, close to the speed of light, have a number of advantages over buncher waveguides with a variable phase velocity, particularly in employing high frequency high-power sources; they can be used not only independently, but also as [illegible] accelerators. For each combination of initial

values for a wide range of initial energies ...

Card 1/2

waveguides 85 cm in length. This length is a compromise choice to provide for a 4-6 MeV output energy and a sufficient acceptance angle. The variation in initial energies was 80 to 160 keV; the range of accelerating fields from 50 to 120 kV/cm The results are presented in the form of families of curves, which should be useful in choosing the optimum phase velocity in designing accelerators with an 85 cm long iris waveguide. Orig. art. has: 3 figures.

L 26957-65 EWT(1)/EWT(m)/EPA(w)-2/EEC(t)/EWA(m)-2 Pab-10/Pt-10 IJP(c)
ACCESSION NR: AP5005230 S/0057/65/035/002/0290/0292
41
32
B

AUTHOR: Ostrovskiy, Ye. K.

TITLE: Production of short electron bunches in a linear accelerator

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 2, 1965, 290-292

TOPIC TAGS: electron bunch, relativistic electron, linear accelerator, high energy electron bunch, electron accelerator, electron bunch energy

ABSTRACT: The phase length of a relativistic electron beam of several Mev formed in an injector was shortened by using an accelerating system with a phase velocity equal to the velocity of light. Bunches of several tens of degrees from an injector are injected into the accelerating system and distributed symmetrically with regard to the phase $\phi_0 = \pi/2$. Particles with phase $\phi_0 < \pi/2$ accelerate, while those with $\phi_0 > \pi/2$ slow down in the beginning and after traveling a phase $\pi/2$ accelerate and cluster into a short bunch of several degrees. The clustering causes an energy spread which, like the degree of clustering, depends on the energy of the clustered particles and the phase length of a bunch $\Delta\phi_0$ at the entrance into such a clusterer. The dependences of the phase length of a clustered bunch $\Delta\phi_k$ and of the maximum energy spread ΔU_{max} on the length at the entrance $\Delta\phi_0$ were obtained for

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L 26957-65

ACCESSION NR: AP5005230

three values of entrance energy of the bunch U_o = 2.5, 3.5, and 4.5 Mev. These dependences make it possible to evaluate the necessary entrance conditions for obtaining a bunch of a given phase length if the admissible absolute energy spread at the exit from such a clusterer is known. The energy spread limits the application of this method to accelerators where a monoenergetic beam is required, although it can be a reliable means for obtaining short bunches in high-energy accelerators and in cases where the energy spread is not important. Orig. art. has: 2 figures and 6 formulas.

[JA]

ASSOCIATION: none

SUBMITTED: 06Apr64 ENCL: 00 SUB CODE: NP

NO REF SOV: 000 OTHER: 001 ATD PRESS: 3189

Card 2/2

L 21715-66 EWT(m) IJP(c)
ACC NR: AP6004892 SOURCE CODE: UR/0057/66/036/001/0155/0162

AUTHOR: Ostrovskiy, Yo. K.

ORG: None

TITLE: Shaping of small bunches in a linear electron accelerator

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 1, 1966, 155-162

TOPIC TAGS: linear accelerator, electron accelerator, electron bunching, electron capture, phase velocity, electron capture, electron energy

ABSTRACT: The author discusses two methods for minimizing the extent in phase of the electron bunches at the output of high energy linear accelerator. The first method involves operating the constant phase velocity injection accelerator at a phase velocity below the optimum value for maximum capture and minimum energy spread. Under these conditions the velocity distribution in the injected bunch is such that the bunch decreases in length for a time during drift in field free space. By employing a drift tube of the proper length between the injector and the accelerator proper one can achieve minimum length of the injected bunches. For optimum results injection should take place somewhat before the bunching process in the drift tube is completed in order to compensate for a debunching action of the accelerator proper. An advantage of this technique is that the electrons in the drift tube have energies of several MeV and space charge effects can accordingly be neglected. The second method

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UDC: 621.384.63

L 21715-66

ACC NR: AP6004092

2

of minimizing the extent in phase of the output bunches involves operating the first section of the accelerator at a phase velocity equal to the velocity of the electrons in the injected bunch. This method is discussed in some detail and a numerical example was worked out with the aid of an electronic computer. The energy scatter arising in the bunching process is inconsiderable, and the technique can therefore be employed with moderate energy accelerators as well as with high energy accelerators. The authors thank I.A.Grishayev and V.A.Vishnyakov for valuable remarks and a discussion of the results. Orig. art. has: 12 formulas and 10 figures.

SUB CODE: 20/ SUBM DATE: 24Nov64/ ORIG REF: 002/ OTH REF: 002

Card 2/2 UHR

OSTROVSKIY, Ye.M.

Ascorbic acid and thiamine content of food rations in a city hospital. Vop.pit. 15 no.5:79 S-O '56. (MLRA 9:11)

1. Iz sanitarno-epidemiologicheskoy stantsii Polotska.
(ASCORBIC ACID) (THIAMINE) (DIET IN DISEASE)

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Smelting convertor pig iron with complete elimination of manganese ore from the burden. Metallurg 3 no.8:8-10 Ag '58. (MIRA 11:9)

1. Stalinskiy metallurgicheskiy zavod.
(Cast iron--Metallurgy)

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ABSTRACT: The acceleration of electrons by the field in the matching cavity at the input to a constant phase velocity buncher of a linear accelerator affects the acceptance and acceleration of the electrons by the buncher. This effect is calculated for a matching cavity of the type commonly employed and shown in section in Fig. 1 of the Enclosure. The phase relation between the fields in the matching cavity and the diaphragmed bunching section is obtained from previous work of one of the authors (A.I.Zy*kov,Radiotekhnika i elektronika,8,No.1,1963). The equations of motion of the electron were numerically integrated across the matching cavity, and the resulting phase and energy of the electron at the entrance to the buncher are pre-

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