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Soviet Facilities for the Production
of 1020 mm Pipe

The USSR has, or claims to have, facilities for making 1020-mm pipe at four plants: the Novo Moskovsk Tube Works, the Chelyabinsk Tube Mill, the Ilyich Steel Plant at Zhdanov, and the Khartsyszk Tube Plant.

1. Novo Moskovsk -- The first 1020 mm pipe-making equipment in the USSR was installed in this plant in 1961. The pipe is made on a straight-seam, double-weld basis--that is, by welding together two pre-formed halves. Only a negligible amount of pipe was produced in 1961 and although output increased in 1962, production admittedly was less than the plan in the first half of the year and probably during most of the year.

Additional 1020 mm pipe capacity reportedly was installed in the plant recently. These facilities have been described as the "second section" of the shop, as a "second production" line, and as the "second stage" of the shop. Each of these designations could have different meanings in relation to potential output. A second production line, for example, could imply a doubling of existing capacity. The other designations, however, could refer to the installation of additional welding equipment but with no additional forming presses--in which case capacity would not necessarily double. Moreover, there are references to the establishment of a special "section" for welding two, 6-meter lengths into 12-meter lengths.

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Also being installed at this plant are facilities for producing welded pipe ranging in size from 159 to 529 mm in diameter. Production problems may well develop when these facilities are put in operation. It will be the first known Soviet application of high-frequency welding (instead of submerged-arc welding) in making pipe as large as 529 mm.

2. Chelyabinsk -- This is the USSR's largest pipe and tube works and was said in November 1962 to make "the bulk of the nation's output of 529, 770, and 820 mm gas and oil pipe." The plant makes both seamless and welded pipe. Until early in 1963 no 1020 mm pipe was made at Chelyabinsk although construction of a shop for such facilities was begun in 1962. This project was behind schedule during most if not all of 1962 and it was only under the impact of the embargo that the "priority" character of the plant was finally translated into action.

As at Novo Moskovsk, 1020 mm pipe being made at Chelyabinsk is produced on a straight-seam, double-weld basis--by welding together two pre-formed halves. The first batches of pipe were made late in March. A second "technological" line reportedly was being finished as of 18 April. This could mean that additional welding equipment was being installed and does not necessarily mean the installation of another line of preparation and forming equipment and welding equipment.

3. Ilyich (Zhdanov) -- Facilities for making 1020 mm pipe were only recently installed in this plant. A report of 16 May 63 indicated that testing and adjusting of the mill was beginning. This equipment, unlike that at Novo Moskovsk and Chelyabinsk, is a spiral weld mill. Mills of this type have been in operation at Ilyich at least since 1951 and were

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designed to make pipe in the range 426 to 720 mm.

Work apparently has been underway since early 1962 on modifying the existing equipment in order to utilize spiral welding in making 1020-mm pipe. This probably explains a report early in 1962 in which it was claimed that the first "batches" of spiral welded 1020 mm pipe had been made at this plant. Probably on the basis of technology developed at that point, and as improved during the remainder of the year, plans were made for the installation of two new spiral weld mills and the reconstruction of an existing mill in 1963. The new mills were scheduled to be in operation in April and in August; the reconstructed one was to be put in production in June. "Testing and adjusting" of the "main mechanism" of the first of these was reported on 10 May and the same report claimed that the mill scheduled to be brought in in June will be put in operation in May.

4. Khartsyzsk -- One of the older pipe and tube plants in the USSR, the Khartsyzsk plant has produced large diameter welded pipe at least since the mid-1950's. This plant and the Ilyich Zhdanov plant reportedly were the first in the USSR to produce electric welded gas and oil line pipe up to 720 mm diameter. Until recently, the maximum size line pipe the plant could produce was 820 mm diameter, made on a straight-weld, single seam basis.

In May 1963 a Pravda report stated that construction had been completed on "a complex of the two 1020 mm pipe welding mills" at Khartsyzsk. This development almost certainly is a result of the embargo. There is no

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evidence in available reports on plans for the industry that would indicate any previous intention to produce 1020 mm pipe at this plant. The Pravda report claims that construction of this "complex" was completed in 1½ months. It is obvious that a completely new pipe welding shop could not be started and completed in that time. If the plant is in fact to produce 1020 mm pipe, the "construction" referred to in Pravda may have consisted of installing larger forming presses or of modifications of existing production facilities, in which case production of 1020 mm pipe will be in part at the expense of other large-diameter pipe.

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