

CLASSIFICATION **CONFIDENTIAL**  
 CENTRAL INTELLIGENCE AGENCY REPORT  
 INFORMATION FROM CD NO. [ ]  
 FOREIGN DOCUMENTS OR RADIO BROADCASTS

50X1-HUM

COUNTRY USSR DATE OF INFORMATION 1944-46  
 SUBJECT Economic - Iron and steel production  
 HOW PUBLISHED Monthly periodical DATE DIST. / Nov 1950  
 WHERE PUBLISHED Moscow NO. OF PAGES 2  
 DATE PUBLISHED Mar 1946 SUPPLEMENT TO REPORT NO.  
 LANGUAGE Russian

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF ESPIONAGE ACT 80 U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

SOURCE Stal', No 3, 1946

USE OF CUTTINGS IN SOVIET PIG-IRON PRODUCTION

In 1944-45, nearly 80 percent of steel cuttings in the USSR were consumed by blast-furnace shops. Data from "Glavvtorchermet" (Main Administration of Secondary Ferrous Metals) on the cuttings delivered to it indicate an even higher percentage.

During the war, the majority of metalworking plants of the USSR organized procurement of steel cuttings in accordance with requirements set up by governmental agencies. In 1944, the entire mass of newly formed cuttings underwent crushing. In that year, Soviet blast-furnace operators obtained crushed and fine cuttings exclusively, whereas in previous years, they had received spiral-shaped (v'yunoobraznaya) cuttings along with the cuttings, making charging difficult. Beginning in 1944, therefore, all blast-furnace shops began to order the maximum amount of cuttings.

The addition of cuttings to the charge during the war and postwar period usually resulted in a pig iron with considerable admixtures of chromium and nickel, and sometimes copper. Since in many cases -- as in smelting wrought iron -- these admixtures are harmful, the consumption of cuttings is limited in those blast-furnace shops which must produce a pig iron without a chromium content. The sorting of cuttings of alloy steels (chrome-nickel, chrome-nickel-molybdenum, high-chrome, etc.) enables them to be used for smelting alloy grades of pig iron steel production and foundry pig iron as well as ferroalloys. This practice is widely used in the USSR.

The addition of cuttings to the charge almost always helps to decrease the phosphorus content in the pig iron, a most important factor for the USSR, primarily in the smelting of foundry pig iron from ores of the Central Region; secondly, in smelting Bessemer pig iron; and thirdly, in smelting high-quality pig iron for steel production in the Urals and South. In the latter, of course, only cuttings of high-quality steel smelted in basic furnaces can be used.

In 1945, regional distribution of the procurement of cuttings and their use was as follows:

**CONFIDENTIAL**

CLASSIFICATION		CONFIDENTIAL		DISTRIBUTION								
STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB										
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI										

**CONFIDENTIAL**

CONFIDENTIAL

50X1-HUM

## Distribution of the Procurement and Utilization of Cuttings

<u>Region</u>	<u>Accumulation (USSR=100%)</u>	<u>Quantity of Cuttings (%)</u>			<u>Total Used in Given Region</u>
		<u>Procured and Used In Given Region</u>	<u>Exported beyond Given Region</u>	<u>Imported from Other Regions</u>	
Central Region	30	10	20	-	10
North and Central Urals	26	20	6	9	29
Southern Urals	17	11	6	4	15
Magnitogorsk	2	2	-	10	12
Kuznetsk	16	14	2	-	14
Ukraine	9	9	-	11	20
Total	100	66	34	34	100

As shown by the above table, 66 percent of procured cuttings are now consumed in plants near the procurement area and 34 percent are shipped to plants further away. The Magnitogorsk and Ukraine plants have the maximum quantity of cuttings shipped from other regions.

With this distribution, the estimated average distance of transport of cuttings for major blast-furnace plants is as follows (in kilometers):

Plants of Central Region	250
Plants of Tagil'skiy Region	310
Plants of Chelyabinsk	500
Plants of Ukraine	1,350
Plants of Magnitogorsk	930
Average for the above regions	635

Those plants which have operated for a long time on cuttings and expect to continue to do so in the future should be given additional equipment and should improve the process of charging cuttings into blast furnaces. This applies in particular to the plants in the Central Region.

- E N D -

- 2 -

CONFIDENTIAL

**CONFIDENTIAL**