NEW SOLIDARITY INTERNATIONAL PRESS SERVICE

Special Report

The U.S. Labor Party's Jordan Process Program

Aug. 28 (NSIPS) — The basic material input to any advanced industrial society is steel. This is a special report on the Jordan Steel Process, the centerpiece of the U.S. Labor Party's 1976 presidential campaign platform for world industrial reconstruction, and the response to the plank among industrialists, scientists, and skilled workers across the continent since its adoption by the Labor Party three weeks ago.

In June of 1976, nuclear engineer John Gilbertson, a member of the Research and Development staff of the U.S. Labor Party, addressed the Chicago National Conference of the Fusion Energy Foundation on the role of the Jordan Blast Furnace Process as a key component of an integrated industrial steel and chemical complex. Scientists, industrial representatives and workers engaged in a lengthy and lively discussion of the Jordan Steel Process at the FEF meeting. In the immediately following weeks, nearly 11,000 copies of the **FEF newsletter** containing a transcript of Gilbertson's address and the discussion were sold to skilled workers, industrialists and scientists throughout North America.

In late July, the U.S. Labor Party Presidential candidate Lyndon LaRouche determined to make the Jordan Process the focus of his program for reindustrialization and international development. A campaign statement entitled **The Jordan Process: Re-Industrializing the U.S. to Rebuild the World** (excerpted below) was published in the Labor Party's semi-weekly press, New Solidarity, in early August. In four days, over 33,500 copies of the statement were sold, with 2,500 copies purchased by steelworkers in Ohio, Indiana, and Illinois alone. Autoworkers, machinists, and teamsters in this belt of three of the nation's most heavily industrialized states purchased 4,700, 3,500, and 2,000 copies respectively.

Through Aug. 25, a total of 254,100 copies of New Solidarity containing articles on the Jordan Process were sold to English speaking North American workers. The Jordan Steel Process organizing drive has reached thousands of Mexican, South American, and European workers through New Solidarity's foreign language editions.

In a push for adoption of the Jordan Steel Process plank at the upcoming conventions of the United Steelworkers of America (Aug. 31) and the United Mineworkers (Sept. 23), Labor Party organizers have saturated local trade union bureaucracies with information on the campaign. Reports into USLP Midwest headquarters in Detroit indicate that numbers of these elected representatives are now under heavy pressure from their constituents to definitively break with the Democratic Party's zero-growth, deindustrialization program and join the Labor Party campaign for industrial expansion by supporting the Jordan Process plank on the floor of the steelworkers' and mineworkers' conventions.

This development intersects the growing interest of industrial management and scientific layers in the Jordan Process. Following a series of highly successful meetings between USLP Vice Presidential candidate Wayne Evans and steel producers and their research and development personnel last week, the Labor Party is initiating the formation of international task forces on various aspects of world reindustrialization.

Once unilateral debt moratoria has sweeped away the deadly grip of the Atlanticist debt, the world will be confronted with critical bottlenecks to development, to obtaining critically needed food and housing, which can only be overcome by mobilizing the resources of the United States. The most important of these are shortages of nitrogenous fertilizer, shortages of steel, and shortages of machine tools. To fill these shortages we must utilize new technology — we must use the Jordan Process for integrated steel production as the keystone of reindustrialization of the U.S. manufacturing heartland, as the fastest method to bring to bear the enormous idle productive wealth we possess.

Within a month of initiating this program, unemployment in the industrial heartland will be wiped out and two million additional jobs will be directly created. Within two years, based on this program, we will double steel capacity, expand coal and iron mining, vastly increase machinery production, and create a new chemical industry. This will create 15 to 20 million jobs and open the bottleneck to providing abundant food and housing for the world's population. Together with the necessary conversion of aerospace production to feed into this massive reindustrialization program, this constitutes the core of the U.S. Labor Party's program for full employment — **full employment for development**.

The Requirements

Steel production constitutes probably the biggest single need for carrying out the development plans of the Labor Party's International Development Bank (IDB) program. On a worldwide scale agricultural development programs will within the next two years need 70 million tons of steel a year for new tractors, 30-40 million tons a year for irrigation piping, and at least 10 million tons a year for new earth-moving equipment. Industrial development needs will be far greater — basic housing needs and industrial construction will require above 200 million tons additional yearly capacity, and vastly expanded production of machinery of all types will require at least the same amount. For renovation of the world rail network, especially the totally decrepit U.S. rail lines, we will need more than 20 million tons of steel per year. Altogether, within the next two years or less more than 500 million tons of new capacity will be required, 180 million tons — about a third — in the U.S. alone. Present total world capacity is about 750 million tons per year. Beyond this first two-year period, steel production can be expected to expand in the U.S. by at least **50 per cent annually** for at least five more years.

Machine tool production of all sorts will have to increase at an even faster rate, more than doubling in the first year of an International Development Bank development program, and will thus generate the need for still more steel.

As for fertilizer, the need for this is practically unlimited. For every ton of fertilizer, eight to ten tons of food can be produced. For adequate nutrition, world production of nitrogenous fertilizer, the most expensive and at the same time the most productive type, should be increased to 300 million tons from its present 30 million tons. The more rapidly we do this, the more rapidly will we provice the world's population with the food they need to ward off disease and become fully productive.

For this reason, the Jordan Process is crucial, for by using this process steel production can be doubled with **existing equipment**, and massive amounts of fertilizer created as a byproduct. In addition the Jordan Process, by creating methane as an alternative byproduct, opens the way for an important cheapening of chemical and liquid fuel production, far less expensive than existing petrochemical refining.

Using the Jordan Process will thus assure the rapid expansion of production required by world development.

Why the Jordan Process?

The basic idea of the Jordan Process, developed ten years ago by engineer Robert Jordan, is quite simple (see figure 1). Instead of the normal hot air blast which is used in a blast furnace to make iron in the first step of the steel-making process, pure oxygen is used. This has the effect of enormously increasing energy flow through the blast furnace, since the pure oxygen rapidly oxidizes part of the coal in the furnace, producing very high heat and a far more rapid process of reduction of the iron ore. Since the reduction now occurs twice as fast as in a normal blast furnace, with the Jordan Process the **same** furnace can **double** iron production.

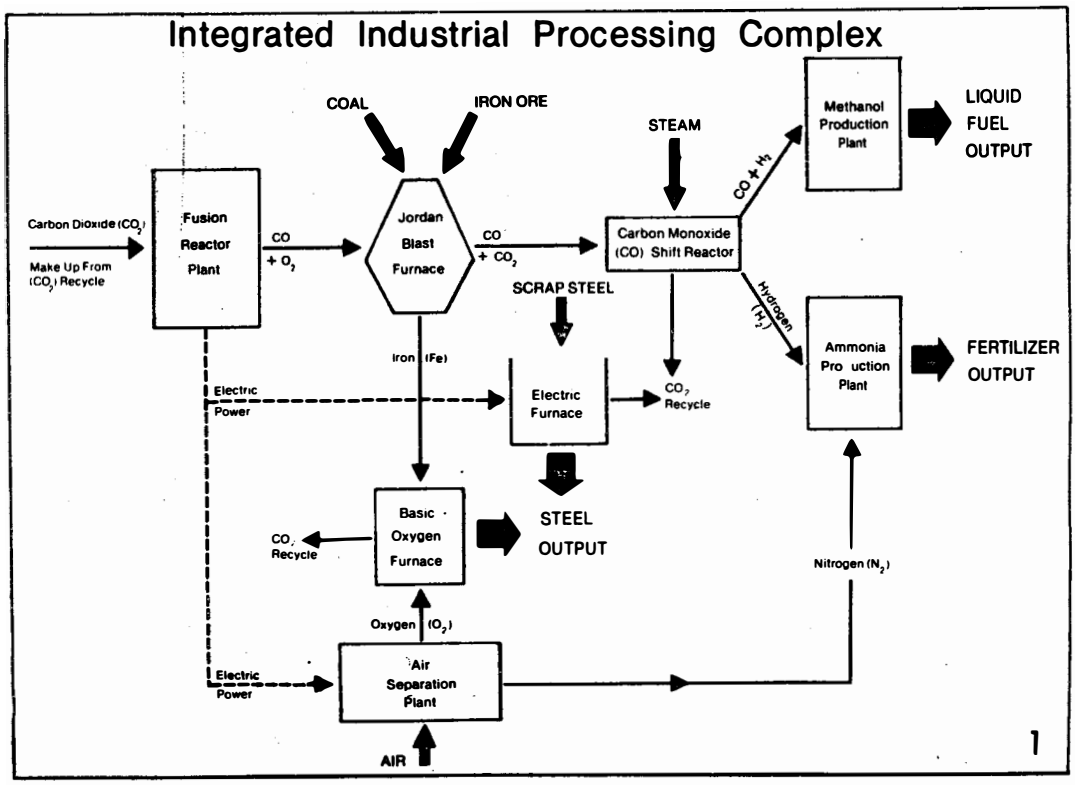
Second, the pure oxygen produces a more energy-rich top gas coming off of the furnace, sufficiently rich to be reused as a feed stock for either ammonia fertilizer or methanol. Producing ammonia by this method is cheaper than conventional techniques which use natural gas as a feed stock, both because the initial step of production is removed and, of course, because it is a byproduct of steel production. Methanol produced by the very simple mechanisms of the Jordan Process is an excellent fuel and feed stock for petrochemical production, far cheaper than gasoline when produced on a mass scale. The efficiency of the Jordan Process will also allow the reclamation of steel from junked cars and other scrap. Furthermore, the Jordan Process, leading in the direction of integrated, high-energy processes, is a natural transition to fusion-based industry which will utilize even more highly energy-intensive and integrated modes.

Jordan Process Conversion

To convert to the Jordan Process the primary piece of new equipment that will have to be added to steel production will be the air separation plant. This unit will supply oxygen to the blast furnace as well as nitrogen to the ammonia fertilizer complex. The required large air separation units are in operation now and can be readily provided for the steel mills. Not all steel mills will be converted to an integrated industrial complex, i.e., petro- and agro-chemical production. However we intend to convert all blast furnaces to the Jordan Process in order to double the iron and steel output of every steel mill in the U.S. Therefore, all steel mills will require these large oxygen production plants, but not all will need these plants' nitrogen production capability. According to engineer Jordan, there is no blast furnace in the U.S., no matter how old, that can't be converted to this process for doubling iron output.

Conversion of the blast furnaces will take place in several steps over a period of from one to two years. For example, during normal operation, a typical steel plant will have one or two blast furnaces shut down for maintenance while the other nine or ten are in full operation. During this shutdown period, the two blast furnaces will be relined with a high-temperature silican carbide fire brick suitable for the oxygen-induced reaction of the Jordan Process. In addition, the bottom region of the blast furnace vessel will be modified to accept a slurry of pulverized coal and carbon monoxide-carbon dioxide top gas through one series of inlet jets and oxygen through other inlets. The Jordan Process will eventually eliminate the need for coking plants, since coal will now be a direct input into the blast furnace, rather than coke. The remaining air-blast furnaces will be converted as they are normally shut down for maintenance, while completed Jordan blast furnaces are put into operation.

Air separation plants will be built in units which each produce 2,000 tons of oxygen a day, the maximum size currently available, and this construction will begin immediately. Enough oxygen capacity will be provided to service the converted blast furnaces as they go into operation. For our example here, each 30-foot-diameter furnace can be assumed to produce about 3,000 tons of iron a day. After conversion to the Jordan Process, this output will double to 6,000 tons a day of hot metal. It takes about a half ton of oxygen to produce one ton of iron; therefore for every two blast furnaces converted, 6,000 tons of oxygen must be produced per day. Hence, three air separation plants, each



producing 2,000 tons a day of oxygen, will have to accompany each set of two blast furnaces converted.

Other equipment that must be added or modified to adjust to the increased output of iron will be the steel-making furnaces, casting processes, rolling mills, etc. Basic Oxygen Process (BOP) for steel-making generally has considerable built-in excess capacity and will initially only have to be increased about 30 per cent. A standard three-vessel BOP furnace normally operates with one vessel on standby or in maintenance and furthermore the other two vessels are usually not operating at their maximum capacity. Therefore much of the increased iron output can be incorporated in the existing BOP furnaces.

A conservative plan will be to install one additional vessel to the basic three-vessel installation. Additional standby capacity, if needed, can be added after conversion to the Jordan Process. Additional casting, forming, and rolling mill capacity will have to be added to these plants, and the manufacture of this equipment will no doubt by the bottleneck in steel mill conversion. Certainly some additional capacity already exists in the mills such that the conversion of a few of the blast furnaces to the Jordan Process can proceed unhindered. However, additional equipment of this type will necessarily have to be added to these plants, a process involving about one and a half years.

As can be seen from the map in Figure 2, the bulk of U.S. steel industry is located in the "manufacturing belt" reaching east from Illinois across Michigan, Indiana, Ohio, Pennsylvania, to New York and New Jersey. At least 80 per cent of U.S. capacity is located in this region, with an additional scattering of mainly newer plants, around the rest of the country, most of which supply local industry. In the manufacturing belt itself there are four major concentrations of steel mills, three of which are within areas less than 150 miles in diameter. These areas are discussed below.

The U.S. Labor Party proposes to convert all steel plants within the United States to the Jordan Process over a one to three year period, starting this fall with the introduction of the first phase of an International Development Bank economy. The conversion will begin with the larger steel producing regions, with those plants having the best installed transportation capacity the first in line. This includes the Great Lakes plants as well as those located along the East Coast. Improvement of transportation in those areas needing it most, i.e., the Pittsburgh and Ohio regions, will begin immediately and will primarily concentrate on the rail system. This will include laying new rails and repairing railbeds so that they can handle higher speed higher volume traffic. The Labor Party has established the existence of plenty of rolling stock in the U.S. to meet the near-term requirements for the transport of steel plant feedstocks and output; the improvements of the railbeds will handle at least the first two years of the Jordan Process conversion. Although all steel mills will be converted to the Jordan Process in order to double the output of iron and steel, only selected plants will be expanded and integrated with large petro- or agro-chemical complexes. This selection process will be based on plant location, space available, plant capacity, layout, and age and type of equipment used. These plants have not been selected yet, but will likely include the large, newer facilities in the Chicago and Lake Erie regions, which have good water shipping access. Although Jordan has recommended that each steel plant chosen for such expansion have its own chemical processing complex because of the large amount of Carbon monoxide that will be available, the Labor Party is also investigating the factors involved in constructing one very large chemical complex which would serve two or three steel plants within a given area, such as for example, Pittsburgh.