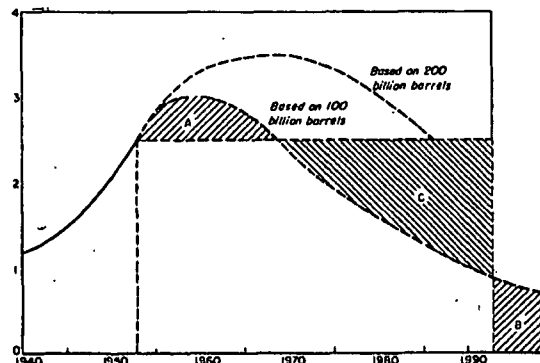


TECHNICAL BRIEFS

Latest engineering developments for busy power men



1 Oil production, extrapolated to 1993 and based on 200 and 100 billion barrels recoverable, shows the effect of reserves on expected production peak years

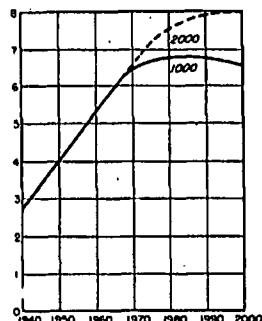
How Much Oil?

The Long Range Outlook for Liquid Fuels in America. By Eugene Ayres, Gulf Research & Development Co.

In January of last year a report was presented on "Petroleum Productive Capacity" by the Committee on Oil and Gas Availability of the National Petroleum Council. This report is commended for study because it represents conclusions of the most competent people in the petroleum industry.

During the past ninety years the world has depended almost exclusively upon natural petroleum for liquid fuel. Less than a tenth of one percent has come from oil shale and coal. The reason for this has been economic. As long as we have an adequate supply of cheap petroleum we will not seek more expensive substitutes. The small amount of supplemental fuel so far used has been surplus benzol and tar from by-product coke ovens, and shale oil and fermentation alcohol produced as occasional slight gestures toward political expediency. How long will cheap petroleum be in adequate supply? The answer hinges on four numbers—supply and demand in the U.S. and supply and demand in the rest of the world.

How about demand for the rest of



2 Politics, wars determine world production peak in billions of barrels

the world? The rest of the world is increasing its consumption more rapidly than we are. The most obvious explanation is that the rest of the world has a far greater margin for technological improvement and for potential demand than we have.

In Fig. 1, production of oil in the United States is extrapolated to 1993 based on ultimate recoverable reserve figures of 100 and 200 billion barrels.

12 Digests for you on:

LIQUID FUEL
ATOMIC POWER
PACKAGED DRIVES
POLLUTION CONTROL

You will note that doubling the reserve postpones the peak of production from 1960 to 1970. If the lower number is right, evidence should appear in three or four years in the form of somewhat less increase in production rate. Even if the higher figure is right the evidence should appear by 1960.

The production curve for the world is shown in Fig. 2. An ultimate reserve of 1000 billion barrels has less foundation in geologic data than estimates for the United States. Most petroleum people feel that political and economic hurdles in foreign countries may retard discovery to such an extent that the peak may not reach as high as seven billion barrels, and may therefore descend less abruptly than shown. (A thousand billion barrels is ten times the present "proved" reserve.) Even if ultimate world reserve turn out to be double that now assumed by geologists, the peak should come by the end of this century. APC Paper, no number.

Industry and Atoms

Why Atomic Power. By W. L. Davidson.

Last September the Commission informed Congress' Joint Committee on Atomic Energy that it was working on the Atomic Energy Commission's position for the development of economic nuclear power. Hearings on "industrial participation" are anticipated shortly by the Joint Committee at which time the Commission's stand will be made public. It should be recognized that this broad problem of nuclear power development is bound to affect other areas of government and the views of other agencies in the Executive Branch must necessarily be factored into any final program which may be adopted by the Congress.

In spite of the wide attention given the general subject of atomic power, over the past seven years, most discussions have centered on the means and a timetable for achieving a nuclear power industry rather than the reasons for it; in other words, the how and when of getting atomic power—not the why. In its search to establish a position on this subject, the AEC could not start at such an advanced point of departure. This would assume that the desirability of pushing toward nuclear power is already clearly established.

(Continued on page 154)

How to make packings last longer

Tips by Johns-Manville Engineers to help you keep production rolling

The right packing in the right place lasts longer, seals better

The advertisement features a large, detailed chart titled "How to make packings last longer" which provides tips from Johns-Manville Engineers. The chart includes various diagrams and text blocks. A speech bubble from a cartoon character says, "The right packing in the right place lasts longer, seals better." Below the chart, text reads: "... and this new chart makes it easy to choose the right J-M Packings for your power plant equipment".

A handy 6-page guide, "Johns-Manville Packings for the Power Plant" simplifies the selection and application of power plant packings. Covering 32 of our most popular styles, it tells at a glance what J-M packings to use... why they are recommended... and how to install them.

Its schematic diagram is spot-keyed to help you locate packing styles for various equipment units. Its brief group-headings help you select J-M packings for centrifugal and rotary services, reciprocating rods and plungers, valve stems, pipe flanges, manholes and handholes... to seal against steam, water, oil, brine, etc... to withstand various temperatures and pressures. Its condensed packing descriptions give you essential buying information.

And a page is devoted to tips on proper installation to help you get maximum economy and efficiency from your Johns-Manville packings.

Your local Johns-Manville Packing Distributor will be glad to give you a copy of this handy packing selector, free of charge. Or write to Johns-Manville, Box 60, New York 16, N. Y., asking for Brochure PK-61A. In Canada, address 199 Bay Street, Toronto 1, Ontario.



Johns-Manville PACKINGS & GASKETS