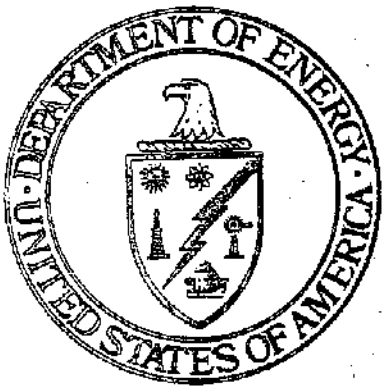
ORNL/Sub-7186/30
Distribution Category UC-90d



LIQUEFACTION TECHNOLOGY ASSESSMENT

FINAL REPORT

work performed by

THE RALPH M. PARSONS COMPANY
Pasadena, California 91124

Subcontract No. 7186

May 1979

for the

FOSSIL ENERGY - DIVISION OF PROGRAM CONTROL AND SUPPORT
U.S. DEPARTMENT OF ENERGY

under subcontract with

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37830

operated by

UNION CARBIDE CORPORATION
NUCLEAR DIVISION

for the

U.S. DEPARTMENT OF ENERGY
Washington, D.C. 20545

Under Contract No. W-7405-eng-26

LIQUEFACTION TECHNOLOGY ASSESSMENT

CONTENTS

CONTENTS (Contd)

CONTENTS (Contd)

CONTENTS (Contd)

CONTENTS (Contd)

ABBREVIATIONS

av	average
bbl	barrel(s)
B/C	benefit-to-cost ratio
BCR	Bituminous Coal Research
BNL	Brookhaven National Laboratory
BP	boiling point
BPD	barrels per day
BPCD	barrels per calendar day
BPSD	barrels per stream day
Btu	British thermal unit
Btu/D	British thermal units per day
Btu/lb	British thermal units per pound
C&C	catalysts and chemicals
CFFC	Clean Fuel From Coal
CSF	Consolidation Synthetic Fuel
DCF	discounted cash flow
D/E	debt/equity ratio
DOE	Department of Energy
eff	efficiency
EDS	Exxon Donor Solvent
EPRI	Electric Power Research Institute
ERDA	Energy Research and Development Administration
EUAC	equivalent uniform annual cost
FCI	fixed capital investment
FEA	Federal Energy Administration
FMC	Food Machinery Corporation
FSC	flame sprayed catalyst
F-T	Fischer-Tropsch
G&A	general and administrative
gpm	gallons per minute
H/C	hydrogen to carbon weight ratio
HHV	higher heating value
HRI	Hydrocarbon Research, Inc.
ID	Internal diameter
LPG	liquified petroleum gas
LTC	low temperature carbonization
M	thousand
MAF	moisture and ash free (coal)
MCF	thousand cubic feet

MM	million
MMM	billion
OCR	Office of Coal Research
OE	oil equivalent (6,000,000 Btu/bbl)
ORNL	Oak Ridge National Laboratory
PAD	Petroleum Administration for Defense
P&M	Pittsburg & Midway Coal Mining Co.
PDU	process development unit
PERC	Pittsburgh Energy Research Center
ppm	parts per million
ppmv	parts per million by volume
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch guage
Quad	quadrillion, 10^{15}
R&D	research and development
RAR	required annual revenue
RMP	The Ralph M. Parsons Company
RPSP	required product selling price
scf	standard cubic feet
scfd	standard cubic feet per day
scfh	standard cubic feet per hour
sh	shell
SNG	substitute natural gas
sp gr and SG	specific gravity
SRC	Solvent Refined Coal
SRT	short residence time
syngas	synthesis gas
TLV	threshold limit value
TPD	tons per day
TPH	tons per hour
TPSD	tons per stream day
TPY	tons per year
UOP	Universal Oil Products
wt	weight