

VCM WAIVER RULES

R. A. Herrington
Texas City Plant Eng.

UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS
ENGINEERING
SOUTH CHARLESTON, WEST VIRGINIA

MEMORANDUM

September 24, 1976

To: See Distribution List

Subject: Materials Procurement Lead Time Chart

The information contained herein has been prepared by the Equipment Engineering and the MRD Purchasing groups for your use. Your ability to meet engineering, construction, or operation schedules relies upon our response to your needs--so it is imperative that we all be aware of vendor delivery schedules. Demands for shorter lead times than are reported here, usually require premium prices.

Changes in lead times from the previous report (August 13, 1976) are marked with an (r) in the right-hand margin (please see page 9 for further explanation of "notes"). Questions concerning specific equipment and/or materials lead times should be directed to the appropriate commodity buyer.

If you would like any commodities added to this report or have any questions relevant to the content, please contact Messrs. B. R. Hutson or J. F. Nelson, Jr.

The next issue will be released November 5, 1976.

B. R. Hutson

Purchasing Department

John F. Nelson, Jr.

Equipment Engineering

B.R.Hutson/J.F.Nelson,Jr./ds
Attachments

UCC
052697

9/24/76

APPROXIMATE LEAD TIMES FOR PROCESSING AND DELIVERY
OF MISCELLANEOUS CONSTRUCTION MATERIALS

<u>COMMODITY</u>	<u>WEEKS REQUIRED</u>		<u>SHIPMENT</u>
	<u>QUOTATION & PURCHASE(1)</u>	<u>SHIPMENT(2)</u>	<u>1977 FORECAST(5)</u>
<u>ARCHITECTURAL</u>			
Doors - Wood -----	2	6	7
- Metal -----	2	10	14
- Rolling -----	2	12	16
Partitions - Special -----	4	12	16
- Standard -----	2	6	8
Roof & Floor Deck (Metal) Fabricated-	3	14	18
Sash -----	2	10	18
<u>ELECTRICAL</u>			
Autocall - Additions -----	3	12	12
New Systems -----	4	12	12
Cable - Power (Per Mfg. Spec.) ----	4	20	30
Cable - Power (Per UCC Spec.) ----	4	24	36
Cable - Instrument -----	3	10	10
Lighting Fixtures (Vapor-Tight) ---	2	8	10
Transformers (low voltage) -----	3	14	18
Cable Tray -----	4	12	16
Conduit -----	2	10	12
Motor Starters (NEMA 7) -----	2	10	14
Building Wire -----	2	8	10
TC Cable -----	3	12	12
Crouse Hinds -----	2	16	16
<u>HEATING & VENTILATING</u>			
Air Conditioning Units - Large ----	4	14	16
- Room -----	1	2	3
Roof Ventilators (Spec.) -----	3	12	16
Unit Heaters or Fans -----	3	10	14
<u>INSTRUMENT</u>			
Control Valves			
Hastelloy -----	4	36	40
Low Temp. (3.5% Ni) -----	4	36	45
Monel -----	4	33	36
Stainless Steel -----	4	20	28
Steel or Cast Iron -----	3	20	24
Flow Tubes -----	4	52	30
Instruments			
Electronic -----	3	26	26
Pneumatic -----	3	12	14
Multipoint Recorders -----	3	22	26
Analyzers-----	3	20	20

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COMMODITY	WEEKS REQUIRED		SHIPMENT
	QUOTATION & PURCHASE(1)	SHIPMENT(2)	1977 FORECAST(5)
<u>INSTRUMENT (continued)</u>			
Instrument Panels			
Shell Only -----	3	14	18
Prepiped/Wired - Inst. Mtd. ----	4	25	30
Orifice Runs -----	2	25	42
Pressure Gauges - Std. -----	2	8	8
Pressure Gauges - Monel, Ni ----	2	16	16
Regulators -----	2	12	12
Thermocouple Assemblies -----	2	8	8
Electronic Components -----	2	6	6
Thermometers -----	2	10	10
Spare Parts -----	2	8	8
<u>MINOR EQUIPMENT</u>			
Filters - Standard -----	2	6	6
- Special -----	2	16	16
Gauge Columns -----	2	10	5
Meters - Gas & Water -----	2	10	10
Safety Valves			
Carbon Steel -----	2	40	42
Stainless Steel -----	2	48	50
Nickel 3.5% -----	2	48	50
Steam Separators -----	2	10	12
Strainers - Standard -----	2	6	8
- Special -----	2	30	34
Tank Venting Eq. (Std.) -----	2	20	22
- (Stainless Trim) -----	2	28	32
Traps - Standard -----	2	8	10
- Special, Drainers -----	2	12	14
<u>MISCELLANEOUS MATERIALS</u>			
Fire Extinguishers -----	2	5	5
Forgings, Steel -----	2	35	40
Insulation - Fab. Aluminum -----	2	10	10
- Pipe & Equipment -----	2	12	24
Locker Cabinets -----	2	8	8
Machine Tools -----	2	16	16
Misc. Machined Parts -----	2	16	16
Paint -----	2	3	3
Paper Products -----	2	10	12
Parts - Compressor -----	6	40	36
- Pump -----	6	36	30
Precision Tools -----	2	20	20
Printed Forms -----	2	8	14
Furniture - Steel -----	2	7/12	8
- Wood -----	2	11(r+1)	10
Plastic, Rod, Sheet -----	2	6	6
Plumbing Fixtures -----	2	6	6
Refractories -----	3	40	50
Spray Systems -----	3	14	16
Timber or Piling -----	2	8	10
Typewriter, IBM (Correcting Selectric)	1	10	10

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COMMODITY	WEEKS REQUIRED		
	QUOTATION & PURCHASE(1)	SHIPMENT(2)	SHIPMENT 1977 FORECAST(5)
PIPING			
Fasteners - Machine Bolts -----	2	6	8
Stud Bolts - Steel -----	2	4	6
- Stainless -----	2	6	8
Fittings - Welding, Screwed -----	2	8	15
Flanges -----	2	10	15
Brass -----	2	8	8
Bronze -----	2	8	8
Hastelloy, Monel, Ni -----	2	14	18
Carbon Steel - 6" & under -----	2	10	10
- 8" & over -----	2	20	20
- Non-Standard -----	2	20	20
Cast Iron -----	2	9	9
Low Temperature -----	2	35	36
Stainless Steel - 6" & under -----	2	8	12
- 8" & over -----	2	10	15
Flanges - Carbon Steel, Std., R.F. ---	2	15	15
Flanges - Carbon Steel, other than R.F. ---	2	36	24
Flanges - Hastelloy, Monel, Ni -----	2	25	36
- Low Temperature -----	2	30	36
- S. S. - 6" & under -----	2	12	15
- S. S. - 8" & over -----	2	12	20
Gaskets - Asb. & Stl. Wound -----	2	4	4
- Monel & Inconel Wound -----	2	14	12
Equip. Gaskets & Specials -----	2	12	12
Spiral Wound Gaskets -----	2	4	3
Std. Compressed Asb. Ring -----	2	3	3
Teflon Enveloped Gaskets -----	2	3	3
Pipe - Aluminum 6" & under -----	2	12	12
- Aluminum 8" & over -----	2	18	18
- Carbon Steel - Mill -----	2	30	24
- Carbon Steel - Piling -----	2	16	16
- CMP Steel - Mill Coated -----	2	12	16
- Warehouse -----	-	2	1
- Copper - 4" & under -----	2	12	12
- Copper - 6" & over -----	2	18	18
- Glass-Lined -----	2	12	12
- Hastelloy -----	2	On Application	
- Teflon Lined -----	2	18	20
- Low Temperature - Mill -----	2	40	36
- Stainless Steel to 12" -----	2	32	28
- Stainless Steel 14-24" -----	2	40	36
Metal Expansion Joints -----	2	24	24
Tubing - Carbon Steel -----	2	24	20
- Copper, Plumbing -----	2	12	10
- Copper, Inst. -----	2	12	10
- Copper, Condenser -----	2	16	14
- Stainless, Inst. -----	2	20	18
- Stainless Condenser -----	2	24	20
Tubing, Fittings			
Brass & Stainless -----	2	10	
Hastelloy, Ni, Monel -----	2	15	

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COMMODITY	WEEKS REQUIRED		SHIPMENT
	QUOTATION & PURCHASE(1)	SHIPMENT(2)	1977 FORECAST(5)
<u>PLATE STEEL FOR EQUIPMENT (MILL ORDERS)</u>			
Aluminum Killed -----	3	10	12
Carbon -----	3	10	12
Chrome - Copper - Nickel -----	3	20	24
Stainless -----	3	10	12
<u>STRUCTURAL STEEL, FABRICATED (a)</u>			
Anchor Bolts -----	3	6	8
Bar Joists -----	3	8	12
Contract Fabrication ----- (50-300 Ton Increments)	4	36	36
Grating & Stair Treads -----	2	10	16
Stock Panels -----	2	8	10
Misc. Iron (to 15 tons) -----	2	16	20
Reinforcing Steel, Standard -----	2	4	6
Reinforcing Steel, Fab. -----	2	8	12
Requirements Contracts			
Misc. Fab. Steel (to 30 tons) ----	2	18	22
Shop Drawings by UCC -----	-	16	18
511 Struc. Shop (Small) -----	-	18	18
<u>UNDERGROUND</u>			
Cast Iron Valves			
12" & under -----	2	24	24
14" & over -----	3	30	30
Butterfly Tapped Lug -----	4	24	24
Sluice Gate -----	2	30	30
Pipe & Fittings			
Clay -----	2	10	10
CISP -----	-	16	16
C1, Pressure Pipe -----	2	18	20
Concrete Gravity -----		20	18
Concrete Pressure -----	2	24	26
HDPE -----	2	18	22
FRP -----	2	24	20
Manholes			
Concrete -----		8	8
Covers and Frames (UGP-601) -----	3	20	20
Tile Lined -----		12	12
Tapping Valves -----	3	36	40
Tapping Saddles -----	3	12	15
Tapping Sleeves -----	3	36	40
Fire Hydrants -----	3	20	20
Catch Basins (UGP-602) -----	3	8	12

(a) LEAD TIMES ARE DEPENDENT UPON MILL LEAD TIME ON STOCK AND TYPE OF FABRICATION INVOLVED.

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COMMODITY	WEEKS REQUIRED		
	QUOTATION & PURCHASE(1)	SHIPMENT(2)	SHIPMENT 1977 FORECAST(5)
<u>VALVES</u>			
Bronze - 4" & under -----	2	12	18
- 6" to 12" -----	2	20	24
C. I. - 12" & under -----	2	14	18
- 14" & over -----	2	22	24
Low Temperature - to 900#-----	2	45	45
- to 1500# and up -----	2	56	60
Stainless Steel - 150# to 3" -----	2	10	26
- 150# -- 4"-6"-----	-	18	36
- 150# -- 8"-12"-----	-	26	40
- 300# to 4" -----	-	26	48
- 300# - 6" and up -----	-	40	55
- 600# -----	-	48	55
Cast Steel			
Flanges - 150# and 300# -----	2	26	40
- 600#, 900#, and 1500# --	-	45	50
Weld End - 150# - 600# -----	2	45	50
- 900# and up -----	-	45	50
Hastelloy, Monel, Nickel -----	2	56	60
Forged Steel Valves -----	-	48	52
Safety Relief Valves -----	-	30	36

OUTSIDE SHOP FABRICATED PIPING

Time required for shop fabricated
piping from date pipe sketches are
released to actual date of delivery:

Carbon & Stainless Steel Piping	
Pipe & Fittings from stock or warehouse -----	*
Pipe from Mill -----	*
Special Flanges or Fittings Manufactured to Order -----	*
Low Temperature Piping	
Pipe & Fittings from stock or warehouse -----	*
Pipe from Mill - 3.5 Ni -----	*
- Cr-Cu-Ni -----	*
- Aluminum Killed -	*
Special Flanges or Fittings Manufactured to Order -----	*

*Will vary substantially in relation to project scope and type of fabrication.
Purchasing will advise as requested.

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APPROXIMATE LEAD TIMES FOR PROCESSING AND DELIVERY
OF MAJOR PROCESS EQUIPMENT (3)

<u>COMMODITY</u>	<u>WEEKS REQUIRED</u>			<u>SHIPMENT FORECAST 1977 (5)</u>
	<u>QUOTATION & PURCHASE(1)</u>	<u>RECEIPT OF APP. DWGS.(4)</u>	<u>SHIPMENT(2)</u>	
<u>MIXERS</u>				
Portables	5	4	12	12
Top, Bottom & Side Entry (Typical)	7	4	32	32
Engineer (Special)	10	6	44	44
<u>BOILERS</u>				
Packaged - Fuel Fired	6	6	45	45
Field Erected - Fuel Fired	6	8	104	104
Waste Heat	7	10	64	64
<u>COLUMNS</u>				
Steel - Under 40 ton	10	12	40/44	48
Steel - Over 40 ton	10	12	54/60	72
Stainless - Under 40 ton	10	12	48	48
Stainless - Over 40 ton	10	12	60	72
Copper - Under 40 ton	10	12	52	52
Copper - Over 40 ton	10	12	68	68
Alum. - Killed, 3.5% Ni, Other Matrls. - Under 40 ton	10	12	72	72
Alum. - Killed, 3.5% Ni, Other Matrls. - Over 40 ton	10	12	80	80
<u>COMPRESSORS</u>				
Centrifugal - Single Stage	8-10	6-8	56/86	86
Centrifugal - Multi Stage	8-10	6-8	56/86	86/104
Reciprocating (To 150 HP)	6-8	6-8	32/36	40
Reciprocating (Below 800 HP)	8-10	5-7	50/60	50
Reciprocating (Above 800 HP)	8-10	5-7	50/60	60
Refrigeration Units (Recip.)	6-8	4-5	52	46
Refrigeration Units (Centrifugal)	6-8	4-6	52	52
<u>CONVERTERS(6)</u>				
Steel (Oxide)	10	24	110	130
<u>CONVEYORS</u>				
Pneumatic Conveying System	10	8	17	17
Mechanical Conveyor System	7	6	15	16
Components	44	4	10	10
<u>ELECTRIC MOTORS</u>				
(1/2 200 HP; 460V)	4	2-3**	16	16
(200 2250HP)	4	8	40	40
(Above 2250 HP) Induction	8	8	46	46
(Above 1000 HP) Synchronous	8	8	52	52
<u>ELECTRICAL TRANSFORMERS</u>				
Distribution	4	8	30	30
Power, Below 10,000 KVA	6	6	30	30
Power, Above 10,000 KVA	8	8	56	56

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COMMODITY	WEEKS REQUIRED			SHIPMENT FORECAST 1977 (5)
	QUOTATION & PURCHASE(1)	RECEIPT OF APP. DWGS.(4)	SHIPMENT(2)	
<u>FILTERS</u>				
Cartridge, Standard	4	2	16	16
Liquid, Special	4	6	22	26
Plate & Frame; Pressure Leaf	4	4	52	50
<u>HEAT EXCHANGERS</u>				
Manufacturer's Standard	8	10	26	30
Custom Fab. -				
Steel Tube - Under 25 ton	10	12	40	44
Steel Tube - Over 25 ton	10	12	54	64
Copper Tube - Under 25 ton	10	12	48	48
Copper Tube - Over 25 ton	10	12	60	60
Stainless Tube - Under 25 ton	10	12	40	44
Stainless Tube - Over 25 ton	10	12	54	60
Finned Tubes - Under 25 ton	10	12	52	52
Finned Tubes - Over 25 ton	10	12	64	64
Air Cooled - Under 25 ton	10	12	48	52
Air Cooled - Over 25 ton	10	12	52	64
Nickel Alloy Tubes - Under 25 ton	12	16	68	72
Nickel Alloy Tubes - Over 25 ton	12	16	72	84
<u>INCINERATORS</u>	7	8	48	48
<u>MISCELLANEOUS</u>				
Extruders & Mixers (Banbury Type)	8	6	54	75
Centrifuges	8	6-8	60/75	48/60
Special Controls - Electrical	4	8	24	30
Switchgear (600V and Below)	4	8	30	36
Switchgear (Above 600V)	4	8	36	40
Heaters - Fuel Fired	6	8	52	52
Motor Control Centers (Indoor & Outdoor)	6	6	20	20
Inline Motionless Mixers (Standard Units)	5	2	9	9
Computers (Process) and Peripherals	4	-	26	26
<u>PUMPS</u>				
Centrifugal, Manufacturer's Std.	10	6	22(r-4)	18(r-2)
Special - to 500 gpm	14	8	46(r-2)	44(r-2)
Special - above 500 gpm (Alloy)	14	8	46(r-6)	46
Reciprocating, Manufacturer's Std.	10	6	30	26(r-4)
Rotary	10	6	20(r-6)	16(r-4)
Metering	10	6	16	12(r-4)
<u>STEAM JETS</u>				
Single and Multi Stage Non Condensing	7	4	26	26
Multi Stage Condensing	10	6	36	36
<u>STEAM TURBINES</u>				
Single Stage (Below 3000 HP)	6-8	6-8	48	48
Multi Stage (Below 5000 HP)	8-10	6-10	86	86
Multi Stage/Multi Valve (Above 5000 HP)	8-10	8-12	86	96

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<u>COMMODITY</u>	<u>WEEKS REQUIRED</u>			<u>SHIPMENT FORECAST 1977(5)</u>
	<u>QUOTATION & PURCHASE(1)</u>	<u>RECEIPT OF APP. DWGS.(4)</u>	<u>SHIPMENT(2)</u>	
<u>TANKS</u>				
Steel (Standard Size)	8	8	40	44
Stainless Steel (Std. Size)	8	12	48	52
Alum. - Killed, 3.5% Nickel	8	12	60	60
Glass-Lined	8	10	60	60
Field Erected	8	10	72	72
Bins & Hoppers	8	12	44	48
Entrainment Separators	8	16	40	44
<u>TRAYS</u>				
Linde - All Except Nickel	10	12	48	48
Other	10	12	40	48
All Suppliers - Nickel	10	16	60	60

NOTES:

- (1) Time is measured from receipt of requisition (after design and specification) through placing of order. Includes time required for inquiries and bid evaluation.
- (2) Shipment time is from date of order through date of shipment. Does not include in-transit time. On major equipment shipping time includes 4 weeks approval drawing turnaround.
- (3) Lead times, as reported, are judged adequate to cover approximately 80 percent of the equipment purchased in each category.
- (4) After purchase order; probable variation $\pm$ two weeks depending on vendor work load.
- (5) Based on historical data from purchase orders placed during first half of 1976.
- (6) Based on purchase from Nooter Corporation with no prior commitment.
- ** Standard NEMA Drawings and Date, 6-8 Weeks if Non-Standard.
- # U. S. Electrical Motors Purchase Contract.
- (r) Denotes a revision has been made from previous issue. Plus (+) or minus (-) indicates increase or decrease made in the revision.

UCC
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