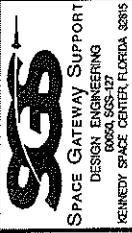


KENNEDY SPACE CENTER CONVERTER COMPRESSOR FACILITY, K7-468

LIQUID HELIUM DEWAR WITHDRAWAL LINE FABRICATION



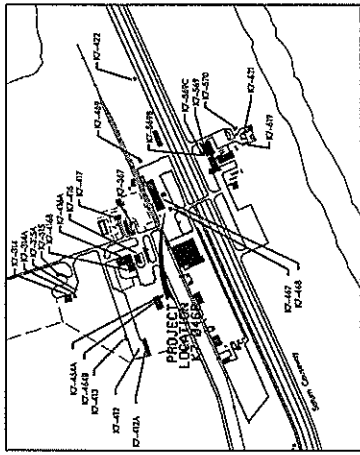
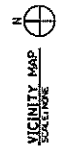
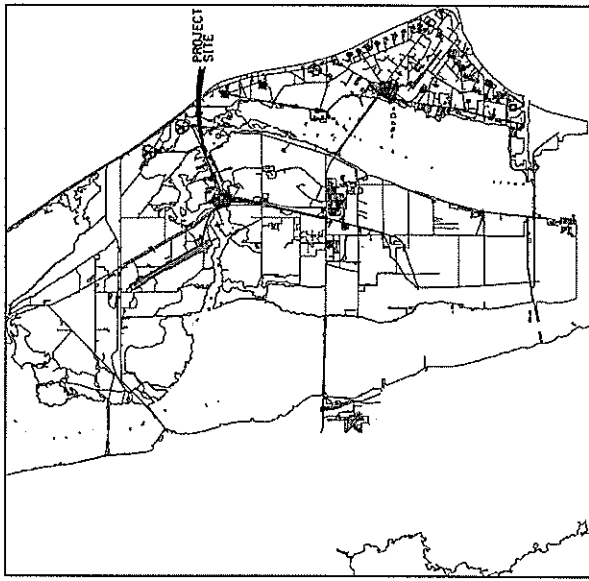
SPACE GATEWAY SUPPORT
DESIGN ENGINEERING
CONVERTER COMPRESSOR FACILITY
KENNEDY SPACE CENTER, FLORIDA 32815

SHEET NO.	TITLE	DATE	BY
1	LIQUID HELIUM DEWAR WITHDRAWAL LINE FABRICATION	7/19/68	W. J. JACKSON
2	LIQUID HELIUM DEWAR WITHDRAWAL LINE - ISLAND SIDE	7/19/68	W. J. JACKSON
3	LIQUID HELIUM DEWAR WITHDRAWAL LINE - NON-VJ MANIFOLD SIDE	7/19/68	W. J. JACKSON
4	LIQUID HELIUM DEWAR WITHDRAWAL LINE ADAPTER SPOOL	7/19/68	W. J. JACKSON

REFERENCE DOCUMENTS:
 BASELINE NUMBER: 454.81
 FOR THE 2000 SYSTEM CONFIGURATION LIST PER-
 MITS, PARTS, AND COMPONENTS BY SERIAL NUMBER.
DESIGN SPECIFICATIONS:
 VALVE ASSEMBLY WORK SPECIFICATION FOR
 CONVERTER COMPRESSOR FACILITY MODIFICATIONS FOR LIQUID
 HELIUM STORAGE SYSTEM (REFERENCE DOCUMENT)
 PIPING LIQUID HELIUM WITHDRAWAL JACKET, 4000 AND
 SURFACE CLEANLINESS OF FLUID SYSTEMS, SPECIFICATION FOR
 PROPRIETARY PRESSURE ADAPTER HELIUM
 ROCKET LAUNCH COMPLEX (ASST. HELIUM)
 ROCKET LAUNCH COMPLEX INTERNAL STRAIGHT THROUGH
 REFERENCE SPECIFICATIONS FOR CONSTRUCTION OF PRESSURE
 SECTOR IN HELIUM AND BRASS QUALIFICATIONS
 FACTORY MAKE WROUGHT STEEL BUTTWELDED FITTINGS
 PROCESS PIPING
 QUALIFICATION AND CERTIFICATION OF NONSTRUCTURAL TEST
 PERSONNEL STANDARDS FOR FORGING IN ROLLER MILL AND
 STAINLESS STEEL TUBING, LOW-TEMPERATURE FITTINGS, AND
 VALVES AND PARTS FOR HIGH-TEMPERATURE SERVICE
 STEEL WELDED FITTINGS AND PIPES FOR PRESSURE VESSELS
 STANDARD SPECIFICATION FOR
 FOR BULK HEADS, FLANGES, AND TUBING AFTER TUBING
 FOR BULK HEADS, FLANGES, AND TUBING AFTER TUBING
 SEAMLESS AND WELDED AUSTENITIC STAINLESS STEEL PIPES
 STANDARD SPECIFICATION FOR
 PIPING FOR LIQUID HELIUM STORAGE ADAPTER SPOOLS
 WROUGHT AUSTENITIC STAINLESS STEEL PIPING FITTINGS
 STANDARD SPECIFICATION FOR
 COMPRESSOR JOINT MANUFACTURERS ASSOCIATION STANDARDS.
 SPS DESIGN

CONFIGURATION DOCUMENTATION:
 ONE SUPPLY SYSTEM MECHANICAL CONFIGURATION DRAWING
 8160001

REFERENCE DRAWINGS:
 9K-2000-1419 LIQUID HELIUM DEWAR FILL LINE FABRICATION
 9K-2000-1419 LIQUID HELIUM DEWAR KEN DISCHARGE LINE FABRICATION
 9K-2000-1420 LIQUID HELIUM DEWAR NON-VJ MANIFOLD FABRICATION



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
 JOHN F. KENNEDY SPACE CENTER, FLORIDA
 CONVERTER COMPRESSOR FACILITY, K7-468
 LIQUID HELIUM DEWAR
 WITHDRAWAL LINE FABRICATION

REVISIONS: ALL REVISIONS INDICATED BY LINE & NUMBER. REVISIONS TO THIS DRAWING SHALL BE MADE BY THE ORIGINAL DESIGNER OR HIS AUTHORIZED REPRESENTATIVE. NO REVISIONS SHALL BE MADE TO THIS DRAWING WITHOUT THE WRITTEN APPROVAL OF THE ORIGINAL DESIGNER.

NO.	DATE	DESCRIPTION
1	7/19/68	ISSUED FOR FABRICATION

APPROVED BY: W. J. JACKSON
 DATE: 7/19/68

DESIGNED BY: W. J. JACKSON
 CHECKED BY: W. J. JACKSON
 DRAWN BY: W. J. JACKSON
 IN CHARGE: W. J. JACKSON

TITLE, INDEX AND REFERENCE DOCUMENTS
 G-1
 SHEET 1 OF 4



SPACE GATEWAY SUPPORT
 DESIGN ENGINEERING
 6363 SCS-47
 KENNEDY SPACE CENTER, FLORIDA 32815
 DRAWING

HAZARDOUS MATERIALS
 LISTED BELOW ARE THE HAZARDOUS MATERIALS
 RELATED TO THIS PROJECT REFER TO
 THE HAZARDOUS MATERIALS SECTION FOR
 ADDITIONAL INFORMATION AND
 REQUIREMENTS.

SUSPECTED LEAD YES NO

SUSPECTED ASBESTOS YES NO

IF THE CONTINUATION ENCOUNTERS ON SURFACES ANY
 OF THE ABOVE LISTED HAZARDOUS MATERIALS,
 STOP WORK IMMEDIATELY. THE CONTRACTOR MUST
 STOP FROM PROCEEDING THE CONTRACT WORKING
 CONTINUED IS NOT TO DISTURB THE MATERIALS IN
 ANY MANNER AND NOTIFY THE CONTRACTING OFFICE
 AT ONCE.

SPECIFICATION:
 THESE DRAWINGS ARE PART OF A CONTRACTION
 DOCUMENT WHICH INCLUDES SPECIFICATION
 PERTAINING TO THIS DRAWING.

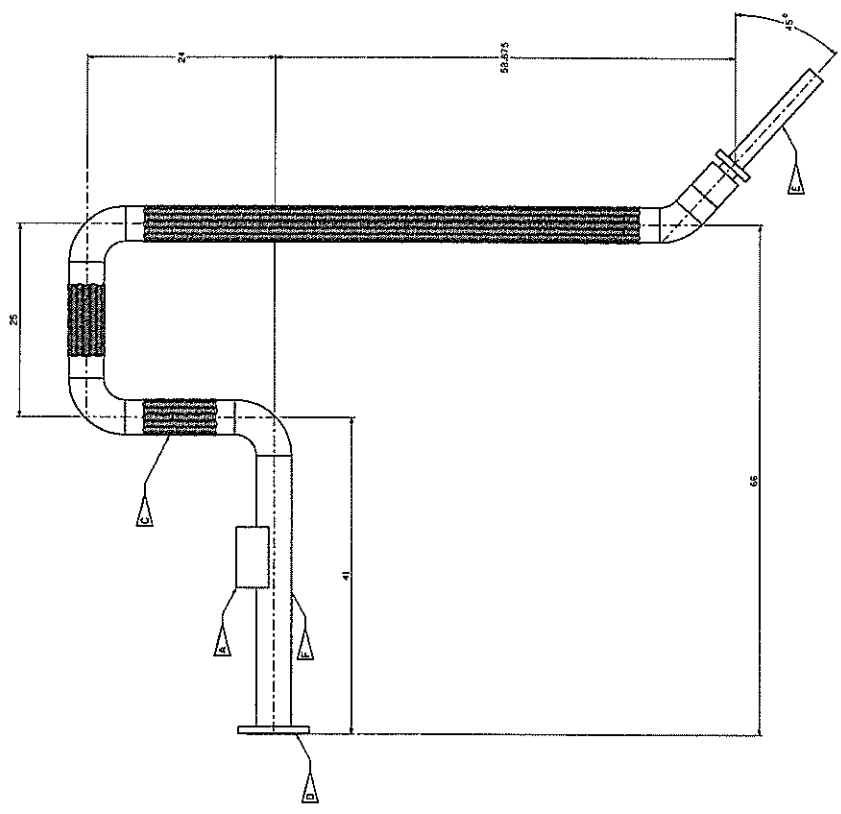
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, FLORIDA
KENNEDY SPACE CENTER
CONVERTER COMPRESSOR FACILITY, K7-46B

LIQUID HELIUM DEWAR
WITHDRAWAL LINE FABRICATION

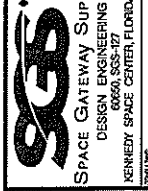
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ICON NO.	10472850
CAD DWG NO.	SK-2005-4418
CAD FILE NO.	SK20050418.002
DESIGNED BY	NAME SIGNATURE DATE
WIDENSTEUTE	<i>[Signature]</i> 7/16/05
WIDENSTEUTE	<i>[Signature]</i> 7/16/05
ALJOHNSON	<i>[Signature]</i> 7/16/05
ALJOHNSON	<i>[Signature]</i> 7/16/05
WIDENSTEUTE	<i>[Signature]</i> 7/16/05
WIDENSTEUTE	<i>[Signature]</i> 7/16/05
THE DEWAR WITHDRAWAL LINE - DEWAR SIDE	
D-1 SHEET 2	

- SPECIFIC NOTES:**
- A. THE VACUUM RAMP-OUT AND RELIEF VALVE SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467.
 - B. FLEXIBLE BELLOWS WITH GUARD (IF USED) SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467 AND INSTALLED PER MANUFACTURER'S STANDARDS. MATING FLANGES SHALL BE PER BELLOWS MANUFACTURER'S STANDARD.
 - C. PROTECTIVE BRAD ON OUTER FLEXIBLE LINES SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467 AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 - D. 2" FEMALE COUPLING FOR DRYENCO STYLE BAYONET, 4" x 150 LB ANSI RF FLANGE CONNECTION.
 - E. 2" DRYENCO STYLE BAYONET, 4" VACUUM JACKET ADAPTER.
 - F. VJ PIPE; 2" INTERNAL PIPING IN ACCORDANCE WITH SPECIFICATION 79K35467, 4" VACUUM JACKET PIPING IN ACCORDANCE WITH SPECIFICATION 79K35467.
 - G. ALL DIMENSIONS IN INCHES. ALL ANGLES IN DEGREES.
 - H. ADDITIONAL FABRICATION, CLEANING, INSPECTION AND QUALITY REQUIREMENTS SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467.



A1 DEWAR WITHDRAWAL LINE - SOUTH ELEVATION
 SCALE: NONE



SPACE GATEWAY SUPPORT
DESIGN ENGINEERING
6849 SSS-97
KENNEDY SPACE CENTER, FLORIDA, 32815

HAZARDOUS MATERIALS: HAZARDOUS MATERIALS RELATED TO THIS PROJECT REFER TO THE MATERIALS LIST FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
SUSPECTED LEAD YES NO
SUSPECTED ASBESTOS YES NO
IF THE CONTAINER ENCOUNTERED OR SUSPECTED ANY UNIDENTIFIED HAZARDOUS MATERIAL THAT PRESENTS A POTENTIAL HAZARD TO THE PERSONNEL OR THE ENVIRONMENT, THE CONTRACTOR IS NOT TO ENTER THE MATERIAL IN THE CONTAINER AND NOTIFY THE CONTRACTING OFFICE AT ONCE.
SPECIFICATION: THESE DRAWINGS ARE PART OF A CONSTRUCTION PACKAGE WHICH INCLUDES SPECIFICATION 79K35467 IN PART.

WITHDRAWAL LINE FABRICATION

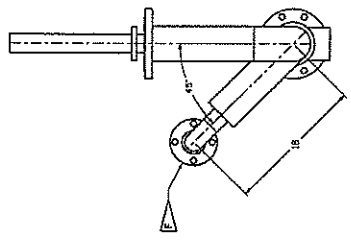
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, NASA
KENNEDY SPACE CENTER, FLORIDA
KENNEDY SPACE CENTER
CONVERTER COMPRESSOR FACILITY, K7-468
LIQUID HELIUM DEWAR

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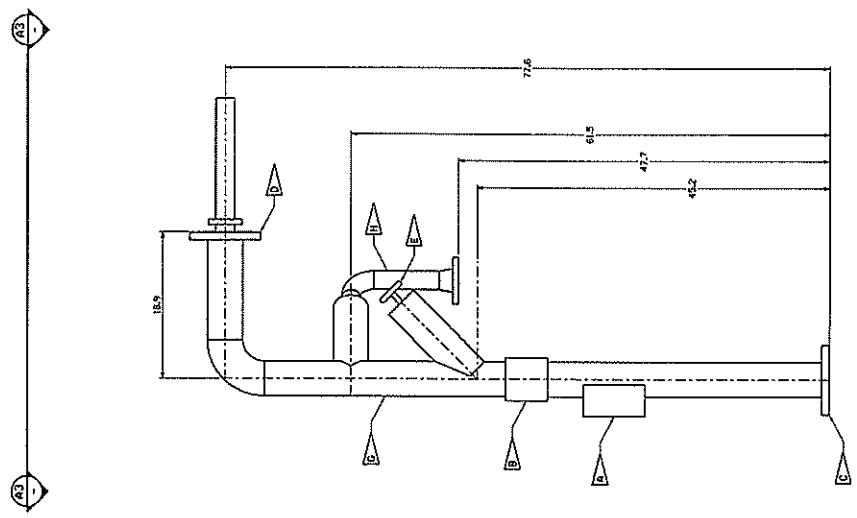
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CAD FILE NO:	SK2008418.003
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D-2
SHEET 3

- SPECIFIC NOTES:**
- A. THE VACUUM PUMP-OUT AND RELIEF VALVE SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467.
 - B. FLEXIBLE BELLOWS WITH GUARD SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467 AND INSTALLED PER MANUFACTURER'S STANDARDS. MATING FLANGES SHALL MEET BELLOWS' MANUFACTURER'S STANDARDS.
 - C. 2" FEMALE COUPLING FOR CRYENCO STYLE BAYONET, 4" - 150 LB E-COM FLANGE WITH CENTERED PORT PER 10334578, PLUS WITH K217418 OR APPROVED EQUAL.
 - D. 2" CRYENCO STYLE BAYONET, 4" - 150 LB ANSI RF FLANGE CONNECTION.
 - E. 2" X-PATTERN CRYGENIC GLOBE VALVE, BVE, OR APPROVED EQUAL.
 - F. 2" - 150 LB E-COM FLANGE, OR APPROVED EQUAL.
 - G. 1/2" PIPE, 2" INTERNAL PIPING IN ACCORDANCE WITH SPECIFICATION 79K35467, 4" VACUUM JACKET PIPING IN ACCORDANCE WITH SPECIFICATION 79K35467.
 - H. NON-YU PIPE; 2" SCHEDULE 10, SST.
 - J. ALL DIMENSIONS IN INCHES. ALL ANGLES IN DEGREES.
 - K. ADDITIONAL FABRICATION, CLEANING, INSPECTION AND QUALITY REQUIREMENTS SHALL BE IN ACCORDANCE WITH SPECIFICATION 79K35467.



A3 DEWAR WITHDRAWAL LINE - TOP VIEW
SCALE: NONE



A1 DEWAR WITHDRAWAL LINE - SOUTH ELEVATION
SCALE: NONE

