

CALCULATION COVER SHEET

PROJECT CO2 KARSTO		JOB NO. 25474		CALC NO. Bechtel:25474-000-M4C-CN-00002 Owner:10112936-PB-P-TDO-0002		SHEET 1	
SUBJECT: COLUMN SYSTEM AND FLOODING FACTORS				DISCIPLINE: Process			
CALCULATION STATUS		PRELIMINARY X	CONFIRMED	SUPERSEDED	VOIDED		
COMPUTER PROGRAM/TYPE	SCP		MAINFRAME PC		PROGRAM NO.	VERSION/ RELEASE NO.	
	YES	NO	YES	NO			
		X		X			
<p>Use of these calculations by persons, without access to pertinent factors and without proper regard for their purpose, could lead to erroneous conclusions. Should it become necessary to use any of these calculations in your work in the future, it is suggested that the calculations be reviewed with authorized Bechtel personnel to ensure that the purposes, assumptions, judgments and limitations are thoroughly understood. Bechtel cannot assume responsibility for the use of these calculations not under our direct control.</p> <p>Reference Data: 1. GPSA ENGINEERING DATA BOOK, 12th Edition, 2004 2. Bechtel Engineering Design Guide for Tower Internals, 3DG B10 017, Rev.0, 03/01/1994</p>							
<p>Design Basis: CO2 Kårstø - Exhibit E0 - Design Basis</p>							
<p>Remarks: This document provides the system and flooding factors to be applied to the absorber tower and stripper internals.</p>							
<p>Comments System Factors Amine is a fluid with the potential to foam. As a result a system factor is applied to compensate for the resulting loss of separation performance. In accordance with long standing amine experience (Ref.1) a system factor of 0.8 is applied to amine absorbers and 0.85 to amine regenerators. These values are applicable to trayed columns. The nature of packing is that it is less susceptible to foaming and vendors advise a system factor of 0.9 can be applied. For this FEED study a system factor of 0.8 will applied to amine absorbers and 0.85 to amine regenerators for the normal case. (A maximum permitted system factor of 0.9 provides margin in the design for alternate design cases) . For wash water a system factor of 1.0 is applied. Flooding Factors The maximum % flooding determines the capacity limit for the column. As per usual design practice a value of 80% is applied although some structured packings can operate up to 85%. For this FEED study a flooding factor of 80% will applied to all columns for the normal case. (Where particular internals permit 85% flooding, the application of 80% provides margin in the design for alternate design cases)</p>							
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RECORD OF REVISIONS							