

United States - Confidential Client

## PROJECT DESCRIPTION

Hyde performed a thorough gap analysis of the Cleaning Program for a drug product in short supply that was being manufactured at a contract manufacturing facility under consent decree.

Hyde's work on the project involved Hyde Analytical Lab studies, cleaning verification program development and execution as well as cycle development and operational qualification.

## **SCOPE AND DELIVERABLES**

- **Cleaning Process Design of Experiments (DOE) Study**
- **Swab Method Validation**
- **Surface Swab Recovery Validation**
- **Visual Residue Limit Supply**

## **CLEANING VERIFICATION**



Surface Area Calculations / Maximum Allowable Carry-over calculations (MAC).



Development of acceptance criteria (and, as applicable, alert and action limits) for cleaning.



Statistical Analysis technical reports of data gathered during verification



Protocol development, execution, and summary reports.

	REQUIREMENTS PURE STEAM GENERATOR							
REQUIREMENTS			TM					
URS REQ#	DESCRIPTION	QRA	FAT	SAT	1Q	oQ	PQ	
2.	OPERATIONAL REQUIREMENTS							
2.1	Capacity							
1	CSG sized for NL T 5000 lbs/ hr with 3.0-4.5 Bar clean steam pressure distribution, and NMT 8 Bar plant steam pressure at equipment	NCOP	DOC	TEST				
2	Supply Clean Steam to Autoclaves	CPP		TEST				
4	Supply Clean Steam to twelve Age	CPP		TEST				
2.2	Process Requirements							
1	Clean Steam when conds   Identifies required test	COP					TEST	
2	Clean Stream condense functions	COP					TEST	
13	Clean Steam - Prevol Identifies when testing	COP				TEST		
18	Degasser for Non Cost	CPP	TEST					
2.3	Process Counsel: will be executed							
1	Automated Unattreaded O FAT, SAT, IQ, OQ, PQ	NCOP	TEST					
3	CSG shall be convolled and	NCOP	TEST					
4	Shotdown and Alarm based on Resident	COP		TEST				
2.4	Cleaning							
1	Equipment and piping shall be Cleaned and Passivated after FAT	CPP		DOC				
5	All surfaces contacted by product to be 316L SS 15-20 Ra EP Funds, or S.S. impregnated PTFE ( TefSteel )	CPP	TEST					
3	UL Listing	NCPP	DOC					
9	Instruments Calibrated under periodic program	NCPP			DOC			





