

QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

DATE OF RISK ANALYSIS	
SUPERSEDE PROTOCOL No.	NIL





PROTOCOL CONTENTS

S.No.	TITLE	PAGE No.
1.0	Report Pre-Approval	3
2.0	Objective	4
3.0	Scope	4
4.0	Responsibility	5
5.0	Reason for Risk analysis	5
6.0	Site of Study	5
7.0	Training of Execution team	6
8.0	Risk Identification and Evaluation	7
9.0	Risk Mitigation	8
10.0	Risk analysis,Re-Risk analysis Criteria	8
11.0	Annexure	15
12.0	Conclusion	36
13.0	Recommendation	36
14.0	Abbreviation	37
15.0	Report Post Approval	38
14.0	Abbreviation	37





1.0 REPORT PRE-APPROVAL:

PREPARED BY:

DESIGNATION	NAME	SIGNATURE	DATE
OFFICER/EXECUTIVE (QUALITY ASSURANCE)			

REVIEWED BY:

DESIGNATION	NAME	SIGNATURE	DATE
HEAD (PRODUCTION)			
HEAD (QUALITY CONTROL)			

APPROVED BY:

DESIGNATION	NAME	SIGNATURE	DATE
HEAD (QUALITY ASSURANCE)			





2.0 OBJECTIVE:

• To provide documented evidence that there is no risk in extending & discontinuing the Sampling frequency of Sampling & User points of Purified Water.

3.0 SCOPE:

• This risk analysis study report is applicable for performing risk analysis study for extending & discontinuing the sampling frequency of Sampling & User points of Purified Water.





4.0 **RESPONSIBILITY:**

Department	Responsibility
	Shall prepare & Review the Risk analysis Report.
	Execution of the Risk analysis Report with Production and Quality Control
Quality Assurance	Control.Shall compile the data & Prepare Summary Report
	 Risk analysis Report shall be approved by the QA prior the execution.
	Shall review the executed Report to check the compliance and corrective
	action for any discrepancies found. Also shall prepare the summary and
	conclusion of the Risk analysis Study.
	Reviewing of Risk analysis Report for Correctness, Completeness and
Quality Control	Technical Excellence.
	 Post approval of Risk analysis Report after Execution.
	Reviewing of Risk analysis Report for Correctness, Completeness and
Production	Technical Excellence.
	 To provide support for execution of Risk analysis Study as per Report.
	 Post approval of Risk analysis Report after execution.

5.0 REASON FOR RISK ANALYSIS:

• To evaluate the risk in extending & discontinuing the Sampling frequency of Sampling & user points of Purified Water.

6.0 SITE OF STUDY:

Manufacturing area (Granulation/Compression/Coating and Packing), Q-block (Ointment Section & Liquid Section) & I Block at M/s



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

7.0 TRAINING OF EXECUTION TEAM:

S.No.	Name of Trainee	Department	Designation	Signature of Trainee	Checked by QA (Sign & Date)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Name of the Trainer:	
Inference:	
	Reviewed By
	Reviewed By Manager QA

(Sign & Date)





8.0 RISK IDENTIFICATION & EVALUATION:

- There are 02 Purified Water Generation & Distribution System.
- Detail given below:

System	Purified W	ater Generation & Distribution	Purified V	Vater Generation & Distribution Systen
	System 01		02	
Capacity	3 KL		5 KL	
Loop	Loop 01	QC & I-Block	Loop 04	Ointment Section, FFS, Ampoule,
				MCDP & Store
	Loop 02	Granulation & Soft gel Section	Loop 05	F-Block
	Loop 03	Coating & Packing	Loop 06	Coating, Granulation & Three Piece
Sampling	13 Nos.		13 Nos.	Line
Points				
User Points	76 Nos.		49 Nos.	





9.0 RISK MITIGATION:

- > Sampling planner to be revised.
- Daily monitoring to be redefined.

10.0 RISK ANALYSIS, RE-RISK ANALYSISCRITERIA:

10.1 Failure Mode Effect Analysis:

In the following section a table is produced for the risk analysis using FMEA tool. The significance or instruction for each column is described in the following paragraph.

Column 1:	Serial number of Risk Analysis item
Column 2:	Item/Function: Identify the process step or component associated with the risk.
Column 3:	Potential Failure Mode: Identify the type of risk associated with the process or component.
Column 4:	Effect of Potential Failure/Cause: Verify that whether risk have GMP impact.
Column 5/6/7/8/9:	Severity/Occurrence/Detection/Risk level/Risk Acceptance: Risk Priority Number to be calculated by taking Severity, Occurrence & Detection of potential failure into consideration.
Column 10:	Risk Mitigation: Write the risk mitigation strategy as considered in design.
Column 11/12/13/14/15:	Severity/Occurrence/Detection/Risk level/Risk Acceptance: Risk Priority Number to be calculated after mitigation by taking Severity, Occurrence & Detection of potential failure into consideration.
Column16:	Recommended action: Recommended actions should be given for controlling failure occurrence.

Table 1: Instruction for each column given above



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

FACILITY: DISCONTINUATION OF SAMPLING POINTS FOR ANALYSIS OF PURIFIED WATER

S.No.	Item/	Potential	Potential Cause/	Potential Effect of	Current Control	Reference	S	S O D Risk Recommende		Recommended				sk	
	Function	Failure Mode (Failure Mode)	Mechanism of Failure	Failure (Effect)						Priority Number (S*O*D)	Actions (if any)	S	О	D	RPN S*O*D
1.	1. Sampling points frequency extension & Discontinuation in Generation System	Microbial contamination may occur	Microbial count may increase	Bio-burden failure	Monthly sanitization Vent filter integrity Qualification done for 03 phases. UV installed in Generation.	"Sanitization of Purified water Generation & Distribution system" (SOP No. Filter integrity testing Water System Validation . Performance Qualification report.	4	3	1	12	NA	NA	NA	NA	NA
		Bio-burden in water increases	Pathogen enhancement	MLT failure	Monthly sanitization Vent filter integrity. Qualification done for 03 phases.	 "Sanitization of Purified water Generation & Distribution system". Filter integrity testing. Water System Validation . Performance Qualification report. 	4	3	1	12	NA	NA	NA	NA	NA
		Chemical impurities enhances in products	Unwanted impurity increases	• Contamination	Conductivity meter installed. Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report.	5	2	3	30	Trend of online Conductivity to be monitored regularly	5	2	1	10
		Description failure	Unwanted impurity increases	• Contamination	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	5	2	3	30	Trend of online Conductivity to be monitored regularly	5	2	1	10
		Conductivity failure	Increase in ions due to impurity.	Oxidation-Reduction reaction takes place	 Auto dumping valve. 	 Operational Qualification report. Performance Qualification report. 	5	3	1	15	NA	NA	NA	NA	NA
		TOC failure	Bio-burden results into increase in carbon	•Carbon value increases in batch	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	3	3	1	9	NA	NA	NA	NA	NA



QUALITY ASSURANCE DEPARTMENT

S.No.	Item/	Potential	Potential Cause/	Potential Effect of	Current Control	Reference	S	0	D	Risk	Recommended		Pe	ost R	isk
	Function	Failure Mode (Failure Mode)	Mechanism of Failure	Failure (Effect)						Priority Number (S*O*D)	Actions (if any)	S	O	D	RPN S*O*D
		Acidity/Alkalinity failure	Imbalance in pH	Batch failure	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	3	1	1	3	NA	NA	NA	NA	NA
2.	Sampling points frequency extension & Discontinuation in Distribution System	Microbial Contamination may occur in Production batches	Degradation of products	Batches may fail in bio- burden	Monthly sanitization Vent filter integrity Qualification done for 03 phases.	 "Sanitization of Purified water Generation & Distribution system". Filter integrity testing. Water System Validation . Performance Qualification report. 	4	3	1	12	NA	NA	NA	NA	NA
		Bio-burden in water increases	Pathogen enhancement	Bio-burden failure	 Monthly sanitization Vent filter integrity. Qualification done for 03 phases. 	 "Sanitization of Purified water Generation & Distribution system". Filter integrity testing. Water System Validation . Performance Qualification report. 	4	3	1	12	NA	NA	NA	NA	NA
		Chemical impurities enhances in products	New Impurity development	Contamination	Conductivity meter installed. Qualification done for 03 phases.	 Operational Qualification report. Performance Qualification report. 	5	2	3	30	Trend of online Conductivity to be monitored regularly	5	2	1	10
		Description failure	Unwanted impurity increases	Resulting into failure of product description	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	5	2	3	30	Trend of online Conductivity to be monitored regularly	5	2	1	10
		Conductivity failure	Increase in ions due to impurity.	Oxidation-Reduction reaction takes place	 Alarm system in SCADA. Auto dumping valve Qualification done for 03 phases. 	 Operational Qualification report. Performance Qualification report. 	5	3	1	15	NA	NA	NA	NA	NA
		TOC failure	Bio-burden results into increase in carbon	•Carbon value increases in batch	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	3	3	1	9	NA	NA	NA	NA	NA



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

S.No.	Item/	Potential	Potential Cause/	Potential Effect of	Current Control	Reference	S	0	D	Risk	Recommended		P	ost R	isk
	Function	Failure Mode (Failure Mode)	Mechanism of Failure	Failure (Effect)						Priority Number (S*O*D)	Actions (if any)	S	0	D	RPN S*O*D
		Acidity/Alkalinity failure	Imbalance in pH	Change in finished product property	Chemical & Microbial analysis done for Generation Supply & Return loop on daily basis Qualification done for 03 phases.	Water Trend. Performance Qualification report.	3	1	1	3	NA	NA	NA	NA	NA
	Operational parameters at Generation System	Online Conductivity Meter failure	Increase in ions due to impurity.	Oxidation-Reduction reaction takes place resulting into product degradation	Alarm in SCADA. Auto dumping starts Off line conductivity verification of supply & return line on daily basis. Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report. Output Description:	5	3	1	15	NA	NA	NA	NA	NA
		Auto pH adjustment with ORP failure	pH may imbalance	Change in finished product property resulting into product degradation	Alarm in SCADA Plant will shut down as pH is out of limit. Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report.	5	3	1	15	NA	NA	NA	. NA	NA
		UV lamp failure	Microbial count increases	MLT failure	• Alarm in SCADA • Auto dumping • Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report.	5	3	1	15	NA	NA	NA	. NA	NA
	Operational parameters at Distribution System	Online Conductivity Meter failure	Increase in ions due to impurity.		Alarm in SCADA. Auto dumping starts Off line conductivity verification of supply & return line on daily basis. Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report.	5	3	1	15	NA	NA	NA	NA	NA
		UV lamp failure	Microbial count increases	•MLT failure	• Alarm in SCADA • Auto dumping. • Qualification done for 03 phases.	Operational Qualification report. Performance Qualification report.	5	3	1	15	NA	NA	NA	NA	. NA

Table 4: The above table shows Potential failure mode, effect of potential failure along with Risk Probable Number, Risk Mitigation & Recommended Actions.

* The Risk Priority Number (RPN/Overall Risk) changes based upon the risk. The Risk Assessment team shall decide the acceptance criteria. For example the risk priority number is categorized as below:





QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

Risk Priority Number (RPN)	Risk levels
Upto 25	Low
26-50	Medium
51 to ≤ 125	High

RPN = Severity x Occurrence x Detection

Remarks (if an	ıy):	•••••	•••••			•••••	 •••••
•••••	••••••	•••••				•••••	
•••••		•••••		•••••			
•••••		•••••		•••••			
•••••		•••••		•••••			
•••••		•••••				•••••	
•••••		•••••			•••••		
•••••	•••••	•••••		•••••		•••••	



(QA)

Sign & Date.....



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

Qı	uality Risk Management	Reviewed By	Approved By Head QA		
Name Department		Sign & Date	Head Operations Sign & Date	Sign & Date	
	Production				
	QA				
	QC				

QUALITY RISK ASSESSEMENT AND MITIGATION SUMMARY REPORT

Name	of Facility		
S.No.	Recommended Action	Responsible Person	Target Date of Completion
1.	All alarms to be monitored & noted.		
2.	Trend monitoring to be done on regular basis		

(Manager QA)

Sign & Date.....



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

11.0 Annexure:

Annexure I

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
Purified Water Generation	Before Ultra Violet		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
System					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend. All
					parameters has been verified online in SCADA during generation
					of Purified Water.
Purified Water Generation	After Ultra Violet		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
System					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend. All
					parameters have been verified online in SCADA during generation
					of Purified Water.
Purified Water Generation	Before		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
System	Conductivity				qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend. All
					parameters have been verified online in SCADA during generation
					of Purified Water.
QC Laboratory	Hot Zone Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
QC Laboratory	Washing Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
QC Laboratory	Dissolution Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/ validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
QC Laboratory	Dissolution Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
QC Laboratory	Dissolution		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
	Washing Area				qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
QC Laboratory	Dissolution		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
	Washing Area				qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for Chemical testing only; hence increase in
					the bio-load had no impact on product quality.
Micro Laboratory	Autoclave		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Purified water of this point is used for generation of steam for
					Autoclave purpose. Hence had no critical value in terms of bio-
					burden.
I block DPI	Garment Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in
					all 03 phases. All phases results are consistent & within trend.
					Water is to be used for washing purpose only; hence increase in
					the bio-load had no impact on product quality. Prior to use all the
					garments are autoclaved & sterilized by UV also.
I block DPI	Janitor Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03
					qualification/validation phases. No deviation has been observed in



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
					all 03 phases. All phases results are consistent & within trend. Water is to be used for area cleaning only (D Grade), increase in the bio-load had no impact on product quality as area is cleaned by disinfectant (Lysol/Virosil/ Dettol).
I block DPI	Janitor Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is to be used for area cleaning only (D Grade), increase in the bio-load had no impact on product quality as area is cleaned by disinfectant (Lysol/Virosil/ Dettol).
I block DPI	Unit Preparation Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used in Autoclave for bung sterilization, garment sterilization & accessories sterilization only, As Bung Processor runs at 121.4°C for 30 minutes remaining water got sterilized, hence no impact on product quality.
I block DPI	Utensil Room		Weekly	Monthly	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for machine accessories cleaning, these cleaned utensils are then sterilized for further use. As water comes in direct contact of accessories hence can be tested monthly.
I block DPI	Vial Washing Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for vial washing, these washed vials are then transferred to depyrogenation tunnel for sterilization, hence no need for analysis.
I Block 2 nd Floor	PSG (Pure Steam Generator)		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
					all 03 phases. All phases results are consistent & within trend. Water is used in generation of Pure Steam used for Bung Processor, CIP, SIP& Terminal Sterilizer. All these process works itself on Sterilizing principle, hence no impact on product quality. So point can be discontinued.
I Block 2 nd Floor	MCDP(Multi- column Distillation Plant)		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used in generation of wfi used for Manufacturing. MCDP works itself on Sterilizing principle & produce pyrogen free wfi hence no impact on product quality. So point can be discontinued.
Q.C Laboratory	Hot Zone Area		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
Q.C Laboratory	Chemical Section Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
Q.C Laboratory	Dissolution Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
Q.C Laboratory	Glass Ware Washing Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
Q.C Laboratory	Chemical Section Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
Q.C Laboratory	Dissolution Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
Q.C Laboratory	HPLC Sample Preparation Room		Weekly	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. Water is used for washing of glasswares only, hence no impact on product quality.
	Before Ultra Violet		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	After Ultra Violet		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	Return Loop (Before Conductivity)		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
General Block	Gr-01 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m ³ /hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-01 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-02 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-02 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-03 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70%



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-03 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-05 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 709 IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-05 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-06 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 700 IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-06 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					done.
	Gr-07 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-07 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-08 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-08 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-09 Equipment Washing		Monthly	Once in a 0month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-09 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Gr-10 Equipment Washing		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Gr-10 Paste Preparation Room		Monthly	Once in a month	Sampling point is critical as the water is directly used in formulation hence after certain period an evaluation should be done.
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					discontinued.
	Filter Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Medicament Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Gelatin		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Area (Ground) Monthly Once in a month Sampling I qualification all 03 phase the water sedead leg has chance of a chance of a qualification IPA and it Class environment of the class enviro	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.			
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
Purified Water Generation System	Before Ultra Violet		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	After Ultra Violet		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	Before Conductivity		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
General Block	Coating Area-01		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-02		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Solution Preparation Room		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-03		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. As the water system is continuous and has a flow of 4.2 m³/hr & no dead leg has been observed during qualification, so there is no chance of microbial growth in the distribution line, while there is a chance of cross contamination in user points but during qualification the tip & surrounding of the point is sanitized by 70% IPA and it has no impact on washing as the washing is done in D Class environment, hence there is no chance of contamination during distribution. So the mentioned user point can be discontinued.
	Coating Area-04		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Solution Preparation Room		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-05		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-06		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-07		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-08		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-09		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-10		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block					qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-11		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-12		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-13		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-16		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-15		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Coating Area-14		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	IPQA Room (Adjacent to Rubber Stereo Room)		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Filter Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	IPQA Area		Monthly	Once in a month	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block	Before Ultra Violet		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	After Ultra Violet		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend. All parameters have been verified online in SCADA during generation of Purified Water.
	Garment Wash Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	CIP/SIP Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Unit Preparation & Sterilization Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Equipment Washing Sterilization		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Ampoule Washing & Sterilization		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Leak Test & Terminal Sterilization		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	FFS line		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Equipment Washing		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	MCDP Line		After every 15	Discontinued	Sampling point is not critical as the sampling is done for all 03



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
General Block			days		qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	PSG Line		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	USER POINT (SPARE)		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Janitor Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	IPQA room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Janitor Room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	IPQA room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Washing room		After every 15 days	Discontinued	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
WFI	In return loop line before conductivity		After every 15 days	Six months	Sampling point is not critical as the sampling is done for supply & return loop for all 03 qualification/ validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
WFI	Disinfectant preparation Room (DPI)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for preparation of disinfectant and all 03 qualification/validation phases have been completed. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Equipment Washing room (DPI)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. Water is used for washing purpose only. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Unit Preparation roon (DPI)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. Water is used for Autoclave purpose. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Vial Washing & Sterilizing room (DP		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. Water is used for vial washing, finally washed vials were sterilized. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Garment Washing room (TP)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	CIP/SIP (TP)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Manufacturing 2 (TP		After every 15 days	Six months	Sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Filtration 1(TP)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.



QUALITY ASSURANCE DEPARTMENT

Location	Sampling point details	Sampling point & user point	Existing sampling frequency	Proposed Frequency of Sampling	Justification
	Filtration 2 (TP)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Equipment Wash (TF		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
	Disinfectant room (TP)		After every 15 days	Six months	Sampling point is not critical as the sampling is done for all 03 qualification/validation phases. No deviation has been observed in all 03 phases. All phases results are consistent & within trend.
Remark:					
Verified By (QA) Sign & Date					Reviewed By (Manager QA) Sign & Date





QUALITY ASSURANCE DEPARTMENT

12.0	CONCLUSION:
13.0	RECOMMENDATION:



QUALITY ASSURANCE DEPARTMENT

RISK ANALYSIS STUDY REPORT FOR EXTENDING & DISCONTINUATION OF SAMPLING FREQUENCY OF SAMPLING & USER POINTS OF PURIFIED WATER

14.0 ABBREVIATIONS:

QA : Quality Assurance

QC : Quality Control

No. : Number

Ltd. : Limited

SOP : Standard Operating Procedure

RH : Relative Humidity

CFU : Colony Forming Unit

ISO : International Organization of Standards

FMEA : Failure Mode Effect Analysis

GMP : Good Manufacturing Practices

RPN : Risk Priority Number





15.0 REPORT POST APPROVAL:

PREPARED BY:

DESIGNATION	NAME	SIGNATURE	DATE
OFFICER/EXECUTIVE (QUALITY ASSURANCE)			

REVIEWED BY:

DESIGNATION	NAME	SIGNATURE	DATE
HEAD (PRODUCTION)			
HEAD (QUALITY CONTROL)			

APPROVED BY:

DESIGNATION	NAME	SIGNATURE	DATE
HEAD			
(QUALITY ASSURANCE)			