Safety, Quality , Productivites And Costs Savings

1	**Continious Roll Out, Plasma Bevelling And Auto Welding Method**		
1	Constructibility And Maximum Perimeter/Congifuration		
1.01	Maximum Size of the Tank	22	m dia
1.02	Maximum Height	NO LIMITATION	m
1.03	Maximum Thickness(Tank Wall)	12	mm (25mm in development)
1.04	Usage of Tank	Wide range from food to high valued chemical medium	
1.041	Controlled Weld Joints	1	horizontal joint per ring
1.042	Controlled Weld Joints	1	vertical joint(ring to ring)
1.05	Joint Preparation and Weld Joints	Plasma Welding (no bevelling required)	

3 EXAMPLE OF CONSTRUCTION METHODOLOGY COMPARISON

3.01 Comparison With Conventional Tank Construction

3.02	No of Tank	25	no
3.03	Average Thickness	5.8	mm
3.04	Average Size	6.85	m Dia
3.05	Average Height	13.8	m

3.11	Headers	**Continious Roll Out, Plasma Bevelling And Auto Welding Method**			Conventional Plate-By-By Manual Bevelling and Welding
3.111	Code	API650			API650
3.112	Material	Stainless Steel			Carbon Steel
3.113	Plates	Single Continuous Plate Per Ring			6m Length Per Piece, Conventional Rolled Out, More than one plate To Form One Ring
3.114	Safety-Working Height	1.2 to 2m from the Ground (Always At Low Level)		13.8 m (top level)	Follow The Height Of Construction
3.115	Safety-Construction Method	Top Down Construction (Minimize Working At Height)			Bottom Up Construction (Exposure To Working At Height Risks)
3.116	QA/QC-Horizontal Weld (Ring to Ring)	1	Concurrent Automation (bevelling and lazer weld)	5	Manual bevelling and manual welding
3.117	QA/QC-Vertical Weld Per Ring	1	Double Sided Weld (tandem welding)	1	Single Sided Weld
3.118	QA/QC-Weld Quality	Better and Consistent Weld Quality			Conventional Quality Depend On Skill Of Welder
3.119	QA/QC-Concurrent Multiple Tank Construction	4 to 5 Tanks Concurrently ("Conveyor Belt System"), Better QA/QC			1 At A Time, Highly Dependent Of Workers Skill And Source
3.12	QA/QC-Locality of Tank Construction	Built Off Site/At Temporary Laydown Area/Yards			At Final Tank location. If base foundation are not ready erection cannot start.
3.121	QA/QC-Civil and Other Associated Works	More Focus and Better Quality			Tight Schedule Works, More Risks In QA/QC
3.122	Productivity-Construction Schedule	Concurrent Activites for Tankage, Civil and Other Associated Works, Shorter Period			Tight Schedule Works, Bottle Neck And Possible Delays
3.123	Productivity-Manpower	70 to 80 Workforce			250 to 300 Workforce
3.124	Cost Savings - Less Costs , HR And Social Issues	Less Manpower, Less MYE, Less Levies, Less Accomodation, Transportation And Welfare For Workers			More Costs and More HR Issues
3.125	Cost Savings - Scaffolding	Reduced height of working and standing time of the scaffolding, less costs			Conventional Full Height Scaffolding And Standing Time, More Costs
3.126		Top Down Construction Reduce Requirement of Massive Scaffolding Requirements and Coordination			Bottom Up Construction, More Scaffoldings And Height Requirement and Coordination
3.127	Cost Savings-Painting And Repainting	Stainless Steel Tanks Requires Much Lesser Maintenance And Costs Thereof			Carbon Steel Requires More Routine Maintenance, Repainting And Costs Thereof. If Compare With Stainless Steel Convetional Method, Costs of Conventional Method Are Much More
3.128	Maintenance	Stainless Steel Tanks Requires Much Lesser Maintenance And Costs Thereof			Carbon Steel Requires More Routine Maintenance, Repainting And Costs Thereof. If Compare With Stainless Steel Convetional Method, Costs of Conventional Method