

OIL & GAS DEVELOPMENT COMPANY LIMITED

TERMS OF REFERENCE (TOR) SCOPE OF WORK(SOW)



TENDER ENQUIRY NO: PROC-SERVICES/CB/P&P-4248/2019

HIRING OF SERVICES FOR 'SUPPLY AND OPERATION' OF 'AIR COOLED WATER CHILLERS' OF CAPACITY 210~250 REFRIGERATION TONS (EACH) AT KPD-TAY GAS PROCESSING PLANT ON 'RENTAL BASIS' FOR A PERIOD OF ONE YEAR (EXTENDABLE UP TO FURTHER TWO YEARS WITH MUTUAL CONSENT IN WRITING) (RATE RUNNING CONTRACT)

Note: Master set of tender documents (services) uploaded on OGDCL's website (www.ogdcl.com) is the integral part of this TOR/Tender.

Annexure-A

1. INTRODUCTION

Oil and Gas Development Company Ltd (OGDCL) is Pakistan's National Oil & Gas Exploration and Production Company. OGDCL is currently operating Country's largest Oil & Gas sector including saleable Oil & Gas Processing Plants.

Kunnar-Pasakhi-Deep and Tando-Allah-Yar (KPD-TAY) Integrated Development Project Phase-II is a Gas & LPG Processing Plant, located in Hyderabad District about 25 km away from Hyderabad and approx. 195 km from Karachi, Sindh Province of Pakistan. The project is comprised of two gas processing trains installed in the close proximity of oil wells. The processing plant is connected with the wells through gas gathering network which terminates into slug catcher at the process plant premises.



OGDCL intends to hire the services of an experienced and well reputed Contractor for 'Supply and Operation' of 'Air Cooled Water Chillers' of capacity 210~250 Refrigeration Tons (each) at KPD-TAY Gas Processing Plant on 'Rental Basis' for a period of one year (extendable up to further two years with mutual consent in writing) on rate running basis. The Chiller units must be manufactured by world renowned manufactures and similar models should have been in service in Pakistan and/or Europe, and/or USA, and/or Canada, and/or Middle East for at least 15~20 years and likewise the technical services and spare parts should be available within Pakistan and/or from nearby Countries on a very short notice.

2. PLANT OVERVIEW

- 2.1 KPD-TAY Integrated Facility is comprised of Wellheads, Gas Gathering network and Gas Processing Plant (GPP).
- 2.2 The GPP is combination of two independent identical capacity process trains, comprised of Slug Catchers, Production Separators, Gas Sweetening Units (CO₂ removal), Gas Dehydration Units using Molecular Sieve Adsorbent, LPG Extraction Units, Condensate Stabilization Units, Sales Gas Compressors and Metering and utilities including Power Generation instrument air etc. KPD-TAY Gas processing plant was commissioned late 2016.
- 2.3 Chilled Water unit (ChW) was recently installed and commissioned in September 2018. Currently the unit is being run with overall Chiller capacity of 450 tons/hour, however

OGDCL intends to enhance the cooling capacity to 630 ton/hour (min) by replacing existing chillers with rental Chillers of corresponding capacity.

2.4 Existing ChW unit feeds chilled water to Shell & Tube Type heat exchanger to cool down natural gas prior to feeding to Molecular Sieve Dehydration Plant (see attached P&ID).

3. SCOPE OF SUPPLY

3.1. Contractor's Scope includes 'Supply of Rental Chillers, Operations and Maintenance. The Chillers are to be installed at OGDCL KPD-TAY Gas & LPG Processing Plant. Following are the key parameters of Chillers Units.

TABLE-A				
Item No.	Description	Nos of Units Required	Cooling Capacity Description	NOTES
1	Air Cooled Vapour Compression Cycle (Refrigeration Type) Water Chillers	03 No.	210-250 Refrigeration Tons (each unit)/Hour Total Minimum Cooling Capacity = 630 Refrigeration Tons/ Hour (must comply industry standard which implies that 210 ton/hr minimum cooling capacity when condenser entering air (ambient) temperature is 95 °F (35 °C) or above and simultaneously leaving water (Chiller out) temperature is 44 °F (7 °C) or below @ 460GPM to 480GPM or higher water flow rate.	Bidders may offer units of different capacity within 210~250 range, however total minimum requirement is 630 tons/hour. Moreover any of the unit should not be of capacity less than 210 tons/hr or more than 250 ton/hr. This range is essentially applicable due to existing MCC limitations.
<p>NOTE: Bidders must submit OEM Data Sheets and/or OEM catalogue to prove above and below mentioned specs against the quoted models of each unit.</p>				
<p>1. SPECIFICATIONS & CHILLER PACKAGE PERFORMANCE REQUIREMENTS:</p> <p>1.1. Cooling Capacity Nominal Range: 210~250 Refrigeration Tons/hour (see Cooling Capacity Description above).</p> <p>1.2. Ambient temperate for overall design = 48 °C</p> <p>1.3. Chiller design must meet high ambient temperature requirements and performance/ efficiency should comply with Industry standard. Importantly,</p>				

the Chiller units efficiency should not drop substantially, while operating at 48 °C ambient temperature conditions.

- 1.4. Refrigerant: R134a or equivalent (environmental friendly)
- 1.5. Configuration: Preferably split in parallel or manufacturer's standard.
- 1.6. Available Voltage at Site: 380~415~420 VAC, 50Hz
- 1.7. Chiller Unit Design Temperature for cooling water at outlet = 40 °F to 44 °F (4 °C to 7 °C) at 95 °F ambient temperature.
- 1.8. Minimum reduction (Delta) in temperature of water at rated flow by Chiller Unit = 5 °C
- 1.9. Each Chiller Unit cooling water capacity at design temperature = 460 GPM to 480GPM or higher (leaving at 44 °F / 7 °C or below).
- 1.10. Water Type = Fresh or Demineralized.
- 1.11. Chiller Feed Water entering Temperature = 54 °F (Nominal for Process at gas plant)
- 1.12. Chilled Water leaving Temperature = 44 F (Nominal for Process at gas plant)
- 1.13. Existing system Chilled Water flow rate = 1086 GPM (minimum) (for ref only).
- 1.14. Chillers must be designed for hot harsh conditions. Moreover gusty dust in environment will very likely be present in most months of the year at KPD-TAY Plant site and therefore unit selection must consider this factor.
- 1.15. All Chillers will be required to run on continues basis, particularly during hot summer days and nights and therefore proposed equipment must be robust enough to meet the continuous duty requirements. In the overall 3 chiller units system, potentially only one compressor out of 6 or 9 (if each unit is made up of 2 or 3 compressors), may go to off-load conditions during low ambient conditions in summer. However, this point should not be used as basis of equipment selection.
- 1.16. Air Average Temperature Entering Condenser: 95 °F (Linked with local environmental conditions).
- 1.17. Air High Temperature Entering Condenser: 118 °F (48 °C) or higher (Linked with local environmental conditions).
- 1.18. Condenser: Air Cooled Type
- 1.19. Altitude: 13 meters Approx. (For general info only)

NOTES:

Chiller units' construction materials and rotary equipment must be of highest standard and quality, ensuring highest possible reliability throughout the contract period.

4. CONTRACTOR'S RESPONSIBILITY

Contractor's responsibility includes but not limited to following:

4.1. EQUIPMENT SUPPLY

- 4.1.1. The Contractor shall supply skid mounted packaged chiller units, complete in all respects including functionality and safety integrity equipment and devices.

- 4.1.2. All packaged units to have Electrical and Control System installed within 'Chiller Skid Limits'. It includes but not limited to Circuit Breakers, instruments, safety devices, overload and short circuit protection devices, process safety devices, over speed protection, low oil pressure and refrigerant low pressure indication/protection, high temperature protection, control & electrical cables panel board and display of all critical parameters including process, process control and fault warnings.
- 4.1.3. Adequate and reliable protections must be installed wherever overheating of rotary and/or static equipment may lead to fire case scenario. Contractor will be required to test and demonstrate all such protections prior to start-up of units.
- 4.1.4. The monitoring and protection devices should be in good condition and working order.
- 4.1.5. Availability of Power and Instrument JB's/termination points within 'Chiller Skid Limits'.
- 4.1.6. Each unit is to be provided with emergency shutdown/stop switch which must be operative.
- 4.1.7. Contractor will provide all documentations related to package but not limited to Data Sheets of Package and its units, operation and maintenance manual, necessary test certificates, reports and drawings as applicable.
- 4.1.8. Equipment Skid tie-in points for ChW piping hook-up.
- 4.1.9. Chiller unit must have starting protections of motors with either star delta/soft starter scheme or VFD.
- 4.1.10. Chiller unit starting sequence must follow one compressor starting at a time in order to sustain starting torque/starting current on OGDCL existing electrical system.
- 4.1.11. The supplied Chillers should be brand new OR recently overhauled OR well maintained to provide satisfactory performance during Contract period.
- 4.1.12. Insurance of Chillers and allied equipment will be arranged by Contractor.

4.2. MANPOWER

- 4.2.1. Operational Staff for 24 Hours including weekends and public holidays.
- 4.2.2. Contractor will be required to place highly skilled, experienced and well behaved, safety oriented people for Chiller operations and maintenance. OGDCL reserves the right to accept or reject any of the Contractor's personnel, if they do not meet required criteria, while placed at KPD-TAY plant. Contractor will be required to submit CVs of all personnel prior to placement at Plant site.
- 4.2.3. The contractor shall have to provide details and police clearance certificates of their crew who shall be appointed under the scope of this contract throughout the period with prior 2 week notice to Plant Manager/Field Manager. OGDCL reserves the right for necessary security checks of Contractor's personnel if deemed

necessary. The Contractor has to change any or all of its crew members/operators whose performance is found unsatisfactory or involved in any illegal activities.

- 4.2.4. The crew members must have all the knowledge of Chillers operation & maintenance and should have hands on experience.
- 4.2.5. OGDCL shall have the right to interview, accept or reject any crew member appointed for this project at any stage.
- 4.2.6. Contractor is responsible to arrange alternative crew member in case of absence of any of his onsite staff due to sickness/leave or any other reason. OGDCL will not be responsible for any damage caused to Chillers due to non-presence of operator.
- 4.2.7. Contractor shall supply adequate PPE's including coveralls, ear muffs, safety shoes, safety helmets, safety goggles, safety gloves to their workforce.

4.3. OPERATIONS AND MAINTENANCE

- 4.3.1. Un-interrupted supply of chilled water should be ensured for 24x7 days of each week during contract period.
- 4.3.2. Chiller unit operations must be maintained vigilantly with 100% attendance within the close proximity of units location.
- 4.3.3. Contractor is fully responsible for trouble free operation of all units in accordance with OGDCL Plant Operations Team requirements and OEM SOPs.
- 4.3.4. Regular filling of log books for Chillers and to be signed by Incharge Process KPD-TAY Plant.
- 4.3.5. Filling of daily, weekly, monthly, six monthly and yearly maintenance log books and keeping their records.
- 4.3.6. Operations, servicing, preventative and corrective (breakdown) maintenance of Chillers and other equipment supplied by the Contractor.
- 4.3.7. Fault diagnostics and troubleshooting of all type of issues and ensuring the continuity of operations.
- 4.3.8. All types of maintenance of Chillers in respect of routine check-ups, condition monitoring, lube oil, consumable's, spare parts, material, allied services support and all other requirements including additional manpower support to deal with unexpected major breakdown.
- 4.3.9. Supply of all types of parts required for preventive and corrective maintenance of chillers. Adequate stock will be maintained at site to ensure shortest possible downtime during preventive and breakdown maintenance.
- 4.3.10. Supply of all consumables including refrigerant, lube oils etc. Adequate stock will be maintained at site to ensure the seamless continuity of operations.
- 4.3.11. The Contractor is responsible to provide all necessary tools/accessories to their manpower for routine check-ups, preventive and corrective maintenance.

4.3.12. The Contractor will assure the presence of maintenance manuals at site.

4.3.13. Standard Operating Procedures as per OEM recommendation shall be followed by the Contractor to ensure reliable and safe operations of the units.

5. OGDCL RESPONSIBILITY

- 5.1. OGDCL will provide crane for unloading and loading at plant site. Contractor will be required to provide information on Chillers weight, Centre of Gravity (COG) and assistance in defining safe lifting methodology. Contractor shall also have responsibility to depute their supervisor on site for direct supervision of Chillers' safe unloading and reloading (at the time of decommissioning/end of Contract period).
- 5.2. Hard standing for placing the chillers will be made available at site. Contractor will provide information on the size of required hard standing. OGDCL will use the foundations of existing chillers and in this regard Contractor will consider accommodating their chiller within the existing foundations as much as possible. OGDCL will not change the existing layout of foundations. Existing foundations will be extended only if critical for equipment safety and reliability.
- 5.3. Power supply cable up to Chiller Skids will be provided by OGDCL, whereas all other requirements such as breakers, termination box within skid etc. shall be supplied by Contractor.
- 5.4. Pumps for the supply of raw water and chilled water as per attached P&ID (existing at site).
- 5.5. Piping system and isolation valves for ChW supply and delivery connections with all three units are already installed at site. However, the coupling shall be provided by the Contractor for hook up between Chiller unit and existing piping. [OGDCL will provide the details of exiting piping connections after award of Service Order to facilitate hook-up connection materials arrangements].
- 5.6. Earthing of Chiller skids.
- 5.7. OGDCL will provide accommodation and meals to max. 4 persons during normal operations as per company staff rules. All other expenses will be borne by Contractor.
- 5.8. OGDCL will allow use of workshop space for the maintenance of Chillers' equipment. Supply of tools, secure tool box/ cabinet etc. shall be the Contractor's responsibility.

6. CHILLER UNITS TRANSPORTATION AND INSTALLATION SUPERVISION

- 6.1. The contractor is responsible for mobilization and demobilization (transportation) of Chillers to site/ from site.
- 6.2. Placement of Supervisor for Chiller's installation and de-installation shall be the Contractor's responsibility.
- 6.3. All necessary checks regarding installation of Chillers is the responsibility of Contractor.

7. ONSITE TESTING, COMMISSIONING AND START UP

- 7.1. The Contractor is responsible for testing, pre-commissioning, commissioning and start-up of Chillers at site.
- 7.2. Contractor will be required to review the piping system, valves, strainer, pumps installed by OGDCL to validate the accuracy of connections for successful start-up and operations of Chillers. Contractor will issue conformance/ acceptance certificate subsequent to completing their checks and inspection.
- 7.3. Electrical and instrumentation supplies and installations provided by OGDCL, will also be verified by the Contractor. Contractor will issue conformance/ acceptance certificate subsequent to completing their checks and inspection.
- 7.4. Installation & commissioning of three units is planned to be completed within three calendar days by the Contractor from the date of site handover to contractor by OGDCL. OGDCL envisages to complete their part within three days concurrently, however this duration may change due to Operational priorities at the time of installation.

8. DELIVERY PERIOD

- 8.1. Contractor will be required to deliver 3 Nos. Chiller units at KPD-TAY Plant site within 45 Calendar Days (including holidays/ weekends) from the date of issuance of Service Order by OGDCL.
- 8.2. OGDCL will workout appropriate window for changeover of existing chillers with new rental chillers and in this regard Contractor will keep close liaison with OGDCL focal point to determine exact delivery date. In any case, the delivery date will not be later than 45 days from the date of issuance of service order.

9. COMMISSIONING AND START UP TIMELINE

- 9.1. Contractor shall carry out all pre-commissioning and start up readiness activities on 24 hours work shift basis to facilitate Chillers start up within shortest possible time (maximum in 3 days).
- 9.2. Contractor will be required to complete all pre-commissioning and necessary checks in due course and demonstrate commissioning and start up readiness of all chillers within 3 calendar days after completion of tie-in of electrical, instrument and piping connections by OGDCL.
- 9.3. OGDCL priority is to start up chillers immediate after completion of all readiness activities. However, OGDCL will make decision for exact start-up timings in accordance with plant operations priorities.

10. CONTRACT PERIOD:

Contract period will be one year (extendable up to further two years with mutual consent in writing) from the date of commissioning and successful running of chillers at 100% load and delivering required results within Chiller Skid Limits (Refer Table-A).

11. DEMOBILIZATION:

After termination of contract, contractor is responsible to uninstall Chillers and demobilize them from the OGDCL site within a week after which the contractor will be liable to pay storage charges @ 1 % of the monthly rent rates on every day basis up to 07 days. After 07 days, the penalty will be charged @ 2% of the monthly rent rates on every day basis which will be deducted from final invoice up to maximum of 10% of contract value.

12. TERMS AND CONDITIONS

- 12.1 Rental Chillers Supply, Operations and Maintenance Contract period will be ONE YEAR, EXTENDABLE UP TO FURTHER TWO YEARS WITH MUTUAL CONSENT IN WRITING.
- 12.2 Due to criticality of chilled water system in the overall plant production, downtime is not allowed for chilled water supply and therefore Contractor is required to provide highly reliable machine along with ample quantity of spares to facilitate seamless operations of all units.
- 12.3 Contractor will allow 5 (Five) calendar days to OGDCL for installation and hook up of chillers with existing piping system and during this period rent will not be paid.
- 12.4 After completing first five days, if Chillers are unable to start due to the reasons caused by the Contractor, no rent will be paid until chillers are started.
- 12.5 After completing first five days, if Chillers are not started due to delays on OGDCL part, 25% of rent value will be paid for the period until chillers are started [NOTE: If Chillers are unable to achieve required performance (due to sole reason of Contractor's supply) within 2~4 days of start-up, 25% rental payment will become null and void].
- 12.6 100% Rental payment period will start after commissioning and successful running of chillers at 100% load and delivering required results within Chiller Skid Limits (Refer Table-A).
- 12.7 In the event of any shutdown/breakdown, the Contractor has to make alternate arrangements for provision of chilled water by providing new chillers, if the installed Chillers prove to be unrepairable or taking much longer time for maintenance.
- 12.8 In the event of any emergency shutdown/breakdown sums-up 25 hours/month cumulative or more, rent will not be paid for the shutdown duration of unit. i.e. deductible amount will be determined as:
 - 12.8.1 Number of days of month x 24 hours = total hours;
 - 12.8.2 Total Rent amount divided by calculated hours of the month = rental cost per hour;
 - 12.8.3 Deductible Amount = Units shutdown hours x hourly rent[NOTE: The duration of necessary Shutdowns of Chillers for fins cleaning due to KNR dusty environment and other preventive checks etc. will not be accounted for deduction in rent. However, all such outages will be allowed during night shift to minimize production impact].
- 12.9 In an event, chiller units shutdown prolongs more than 72 hours but less than 144 hours per rental month, 5% additional amount of deductible amount will be charged to the Contractor i.e.

- 12.9.1 Total amount to be deducted = Deductible Amount + 5% of deductible amount = total amount to be charged to Contractor as penalty.
- 12.10 In an event the chiller shutdown prolongs more than 144 hours but less than 216 hours per rental month, 10% additional amount of deductible amount will be charged to the Contractor i.e.
- 12.10.1 Total amount to be deducted = Deductible Amount + 10% of deductible amount = total amount to be charged to Contractor as penalty.
- 12.11 In an event the chiller shutdown prolongs more than 216 hours per rental month, 15% additional amount of deductible amount will be charged to the Contractor i.e.
- 12.11.1 Total amount to be deducted = Deductible Amount + 15% of deductible amount = total amount to be charged to Contractor as penalty.
- 12.12 In the event of poor performance of Chillers, OGDCL will serve formal notice to the Contractor for the rectification of all related issues within shortest possible time. Contractor will formally notify OGDCL about the overall plan to address the concerns. In the event of failure to address the concerns within stipulated time period, OGDCL reserves the right to call off the Contract immediately without assigning any other reason to the contractor with no right of appeal.
- 12.13 OGDCL reserves the right to call off the Contract on 30 calendar days advance notice, in the event OGDCL decides to terminate the supply of Chilled Water system due to any changes in process plant operations philosophy.
- 12.14 OGDCL will not be responsible for any damage caused to Chillers and/or Contractor employees under any circumstances.

13. BIDDERS QUALIFICATION CRITERIA

The participating bidders are required to meet all of the below mentioned criteria points.

- 13.1. KPD-TAY Gas and LPG Processing Plant is a very high value asset and hence requires highest level of reliability in overall operations. In this regard, OGDCL requirement is to engage experienced and technically established service providers for the supply and operations of rental Chiller units.
- 13.2. Bidders are required to meet/comply/satisfy below defined criteria
- 13.2.1. The Bidders intend to participate in this tender, must have minimum 1-2 Years' Experience in Operations and Maintenance of Industrial/ Commercial level Chiller Units and HVAC systems. Registration with 'Pakistan Engineering Council' (valid/current) in the name of their Company' will be an added advantage in order to earn the minimum qualification marks.
- 13.2.2. Bidders intend to participate in this tender, must have minimum 3 Contacts/ clients, where they are currently running or have rendered maintenance and/or operations services in previous years. Moreover, Bidders' must submit "Letter of Services" from at least 3 (three) Clients, stating satisfactory performance of their services during the contract period The letter must

describe the details of Operations and Maintenance Services Scope and units' capacity etc.

- 13.3. The bidders should be currently in Operations and Maintenance business of Chillers and HVAC system. Moreover, 'currently be running' OR 'have run in the past' collective capacity (sum of all units) in the range of 500 tons/hour to 2000 tons/hour or higher.
- 13.4. The Bidder must have been maintaining established organization with current manpower base of minimum 20 people directly working for Chillers System Operations and Maintenance section.
- 13.5. Bidders will be required to provide contact details of their clients, where they are currently running or have rendered Chiller Units maintenance and/or operations services. Company reserves the right to contact all of those contacts (reps of clients) to obtain necessary information during technical bid evaluation stage. Any of the information found fake or forged, shall result in rejection of bid without giving opportunity of review. (Any typographic errors and/or inadvertent minor errors shall be exempted anyway). Bidders are required to submit list of projects/ facilities, where they have been rendering maintenance and operations services with brief definition of their work scope.
- 13.6. The quoted units must be able to supply un-interrupted chilled water supply around the clock as per Table A specs.
- 13.7. In case Bidder's company is comprised of Joint Venture, any of the JV Company must not be in default with OGDCL and/or with any of the publically listed organization.
- 13.8. In case of joint venture, the 'Lead Partner' must meet the above mention qualification criteria.

14. Technical Bid Requirements

- 14.1. Bidders are required to submit the following documents as part of their "TECHNICAL BID" [See Annex-2 for necessary details].
 - 14.1.1. Company profile along with List of projects / facilities, where Bidder have provided or currently providing services in areas of Operations and Maintenance of Industrial/ Commercial level Chiller Units and/or HVAC systems along with brief definition of scope.
 - 14.1.2. Contact details of Clients where they are currently running or had rendered maintenance and/or operations services.
 - 14.1.3. Pakistan Engineering Council Registration Certificate in the name of their Company.
 - 14.1.4. Company profile/ Listed status of the company /other company profile.
 - 14.1.5. Organization chart to demonstrate total number of employees in the Bidder's Company.

- 14.1.6. Organization chart to demonstrate number of employees directly working in Chillers Operations & Maintenance section of Bidder's Company (bidders to submit traceable proof to validate number of employees)
- 14.1.7. List of Proposed/ available Chillers along with technical details/ specification, models, makes, Country of Origin, OEM name/ brand name [see also Annex-2, Category-3].
- 14.1.8. List along with locations, where chillers of proposed manufacturers have been installed in Pakistan and/or outside Pakistan (world-wide and in particular Middle East Region).
- 14.1.9. Proof/ evidence to demonstrate 1-2 years' (minimum) "life of company" by submitting any traceable document from renowned organization/ institute such as "Tax Registration Certificate, Pakistan Chamber of Commerce Registration, or similar document from meeting this criteria.
- 14.1.10. Certified copy of NTN/GST.
- 14.1.11. List of all the workshops and service facilities across Pakistan.
- 14.1.12. Annex-4 'Exceptions, Deviations and Exclusions'.
- 14.1.13. Original Joint Venture Agreement, if Bidder's Company is comprised of JV then Original JV Agreement must be provided in the technical bid. JV agreement must describe the roles and responsibilities of each partner Company.

ANNEXURE-1
LIST OF DOCUMENTS ATTACHED WITH SCOPE OF WORK DOCUMENT

Sr. No.	Description	Document No.
1	Piping Plot Plan	KT-ECR-1001-97-PLP-002 (Not yet marked up for as built)
2	Chilled Water Unit P&IDs	KT-ECR-1001-97-PID-0001 Sheet 1 of 3 (Not yet marked up for as built)
3	Chilled Water Unit P&IDs	KT-ECR-1001-97-PID-0001 Sheet 2 of 3 (Not yet marked up for as built)
4	Chilled Water Unit P&IDs	KT-ECR-1001-97-PID-0001 Sheet 3 of 3 (Not yet marked up for as built)

ANNEXURE-2

TECHNICAL BID EVALUATION CRITERIA

This criterion is developed to evaluate Technical Bids to be submitted for this tender.

CATEGORY	QUALIFICATION CRITERIA	MIN POINTS	MAX POINTS	REQUIREMENT/ REFERENCE
1	<p>Bidders must have minimum 1-2 year experience in Operations and Maintenance of Industrial and/or Commercial level Chiller Units and HVAC systems having collectively current or previously operated capacity in the range of (min) 500 tons/hour to 2000 tons/hour or higher.</p> <p>Bidder must have provided or currently providing services in minimum 3 projects/ facilities in areas of Operations and Maintenance of Industrial/Commercial level Chiller Units and HVAC systems.</p> <p>In order to show the company strength & earn the marks for qualification bidder may submit valid Pakistan Engineering</p>	20	35	<p><u>Bidders to submit:</u></p> <p>1.1 Bidders to submit Pakistan Engineering Council Registration Certificate in the name of their Company.</p> <p>1.2 List of projects/ facilities covering duration of last 1-2 years (minimum), where Bidder has provided or currently providing services in areas of Operations and Maintenance of Industrial/Commercial level Chiller Units and HVAC systems.</p> <p>1.3 Contact details of minimum 3 clients, where they are currently running or had have rendered maintenance and/or operations services in last 1-2 years as minimum. (see section 11 & 12 for details).</p> <p>1.4 Bidders to submit “Letter of Services” from at least 3 (three) Clients, stating satisfactory performance of their services during the contract period. The letter must describe the details of Operations and Maintenance Services Scope and units’ capacity etc.</p> <p>1.5 List of all the workshops and service facilities across Pakistan.</p> <p><u>MARKS DISTRIBUTION CRITERION:</u></p> <p>Marks per year of experience = 2 (up to 5 years)</p> <p>No additional marks will be given for experience above 5 years i.e. maximum marks for experience=10</p> <p>Marks per contract/project = 3 (up to 5 projects)</p> <p>No additional marks will be given for more than 5 projects i.e. maximum marks for number of projects=15</p>

	Council registration certificate.			<p>Marks for PEC registration = 10</p> <p>NOTES:</p> <p>Bidder must obtain 20 points as total in this category to achieve technical bid compliance requirement.</p> <p>OGDCL may require further information during bid evaluation stage and Bidders will be bound to produce all the requested information to fulfil technical evaluation criteria/ requirements.</p> <p>Bidders having less than 1-2 year experience or executed less than 3 number of contracts/projects where bidder has provided services will be technically rejected.</p>
2	The Bidder must have been maintaining established organization with current manpower base of minimum 20 people on Company's "Payroll" and directly working for the bidder's Company under Operations and Maintenance section of Chillers and HVAC Allied equipment Pumps/ elect system	10	15	<p>Bidders to submit:</p> <p>2.1 Organization chart to demonstrate total number of employees in the Bidder's Company.</p> <p>2.2 Organization chart to demonstrate number of employees directly working in Chillers Operations & Maintenance section of Bidder's Company (bidders to submit traceable proof to validate number of employees).</p> <p>MARKS DISTRIBUTION CRITERION:</p> <p>20 people on Company's "Payroll" = 10 marks 30 or more people on Company's "Payroll" = 15 marks</p> <p>NOTE:</p> <p>Bidder must obtain 10 points to achieve technical bid compliance requirement. OGDCL may require further information during bid evaluation stage and Bidders will be bound to produce all the requested information to fulfil technical evaluation criteria/ requirements.</p>
3	Compliance of technical details and specifications of Chillers as described in Table A to be supplied under the scope of this contract.	40	40	<p>3. Bidders to submit:</p> <p>3.1. All technical details and specification of quoted Chiller models must be in compliance with (or exceed) the requirements of TABLE-A (Section-3).</p> <p>3.2. As minimum following technical specs must be submitted for <u>Each Quoted Chiller Unit Separately</u></p>

				<p>3.2.1. Chiller Unit Cooling Capacity in Tons/Hours as per Industry standard rating (i.e. 95 °F ambient air entering condenser): =(@ 44 ° F/7 °C or lower leaving water temperature @460~480 GPM or higher water flow rate.</p> <p>3.2.2. Chiller Unit Cooling Capacity in Tons/Hour at approx. 105 °F and 115 °F ambient air entering condenser: = & (this specification as per OEM standard).</p> <p>3.2.3. NOTE: Bidders to please submit OEM documents along with model nos. to validate/ demonstrate capacity at all above mentioned temperature ranges or at 95 °F/ 35 °C (as minimum).</p> <p>3.2.4. Chiller water-out temperature range (°F) = @460~480 GPM (or higher water flow rate).</p> <p>3.2.5. Chiller Water volume flow capacity at 44 ° F/7 °C or below (see item 1.9) (GPM) =.....</p> <p>3.2.6. Chiller unit water temp reduction (min) at rated flow (See Table-A, Item-1.7, 1.9) (°F)/(°C): =</p> <p>3.2.7. Chiller Unit Make/OEM Name: =.....</p> <p>3.2.8. Type of refrigerant: =.....</p> <p>3.2.9. Compressor Type: =.....</p> <p>3.2.10. Compressor Make/ OEM Name: =.....</p> <p>3.2.11. Chiller Unit Design ambient temperature (° F): =</p> <p>3.2.12. Chiller Unit power supply volts: =</p> <p>3.2.13. Chiller Unit power requirement nominal (KW): =.....</p> <p>3.2.14. Chiller Unit power requirement MAX (KW): =.....</p> <p>3.2.15. Chiller Unit Max Current (Amp): =</p>
--	--	--	--	---

				<p>3.2.16. Chiller Unit Max Starting Current of each compressor in Unit (Amp): =.....</p> <p>3.2.17. Number of compressors installed in chiller unit: =</p> <p>3.2.18. Air cooled Condenser coils/fins materials: =</p> <p>3.2.19. Air cooled condenser ambient design temperature (° F) =.....</p> <p>NOTE:</p> <p>Bidder must obtain 40 points to achieve technical bid compliance requirement.</p> <p>OGDCL may require further technical information during bid evaluation stage and Bidders will be bound to produce all the requested information to fulfil technical evaluation criteria/ requirements.</p>
4	<p>Company Business Registration Requirements:</p> <ul style="list-style-type: none"> - Company must have NTN - Company must be registered for Sales Tax/SST 	10	10	<p><u>Bidders to submit:</u></p> <p>4.1 Relevant information/ certificates.</p> <p>NOTE:</p> <p>Bidder must obtain 10 points to achieve technical bid compliance requirement.</p> <p>OGDCL may require further information during bid evaluation stage and Bidders will be bound to produce all the requested information to fulfil technical evaluation criteria/ requirements.</p>

Maximum Marks: 100

Minimum Qualifying Marks: 80

Contractor should get minimum qualifying marks in each category as mentioned in above table, bid will be rejected if above mentioned minimum qualifying marks in any category will not be scored by the contractor. However, total marks should not be less than 80. Any Contractor who will score less than 80 marks shall not be considered for technical qualification & bid will declared as non-responsive.

ANNEXURE-3
FINANCIAL PROPOSAL FORMAT

1. Bidder shall submit the financial proposal as per below format:
 - 1.1. Mobilization & Demobilization cost (lump sum one time).
 - 1.2. Provide monthly rental charges / rates of chillers which also include cost of operation & maintenance crew of the chillers, any preventive & corrective maintenance costs, equipment replacement costs etc. and all applicable taxes (except PST/ICT), duties, levies, charges etc.

Sr. No.	Description	Quantity	Unit Price in PKR (exclusive of PST/ICT)	Total Price in PKR for 12 Months (exclusive of PST/ICT)	NOTES
1.	Mobilization & Demobilization cost of all Three units (lump sum one time)	1	(lump sum)		50% of this item will be paid after delivery of Chillers at site. Remaining 50% will be paid after demobilization of Chillers from site.
2.	Monthly rental Charges of Chillers (03 Nos)	3	Per month for each chiller		To be paid monthly against verified invoice.
Total Price in PKR inclusive of all taxes (except Provincial Sales Tax/ ICT Tax on services in Pakistan), duties, levies, charges etc.					
Note: i) Bidders are required to factor all types of costs in the above Table. Bidders are NOT allowed to add any other cost item/clause or exemption or condition in their FINANCIAL bid, which could lead to additional costs to OGDCL at later stage under any conditions/ circumstances. Any such clauses or conditions, if found in FINANCIAL bid, the FINANCIAL bid of the bidder shall be considered as NON complaint. ii) Financial evaluation will be carried out comparing 12 Months rental charges of chillers including mobilization / demobilization charges (i.e. complete package basis). And Contract will be awarded to Technically responsive and Financially lowest evaluated bidder.					

2. **BID PRICE:**

- i) Bid price must be quoted in PKR otherwise the bid will be rejected.
 - ii) Bid price shall be inclusive of all taxes, duties, levies, charges etc., except Provincial Sales Tax (PST)/ Islamabad Capital Territory Sales Tax (ICT) on services in Pakistan.
 - iii) The prices quoted by the successful bidder (contractor) for required services shall remain firm and final throughout contract period. The price charged by the successful bidder (contractor) for required services shall not vary from the prices quoted by the service company.
- (This clause shall prevail instead of Master Tender document "ITB" clause # 06 'BID PRICE')**

3. PAYMENT TERMS:

- a. Contractor has to submit monthly rental invoice of the preceding month on the last date of every month to the Location Incharge (KPD-TAY OGDCL) along with signed log books. (Submission of Annexure–C against deposited Sales Tax is a mandatory requirement along with invoice to process the invoice as per OGDCL payment procedure).
- b. The deductions if any will be incorporated before payment of monthly rental invoice.
- c. Payment will be made through cross cheque after deduction of applicable taxes against verified invoices.

(This clause will prevail instead of Master Tender document “ITB” clause # 07 ‘PAYMENT’).

4. AMOUNT OF BID BOND:

Bid Bond /Bid Security amounting to **PKR: 800,000/-** is to be attached / provided with the technical bid. Please see Master Set of Tender Document for further details.

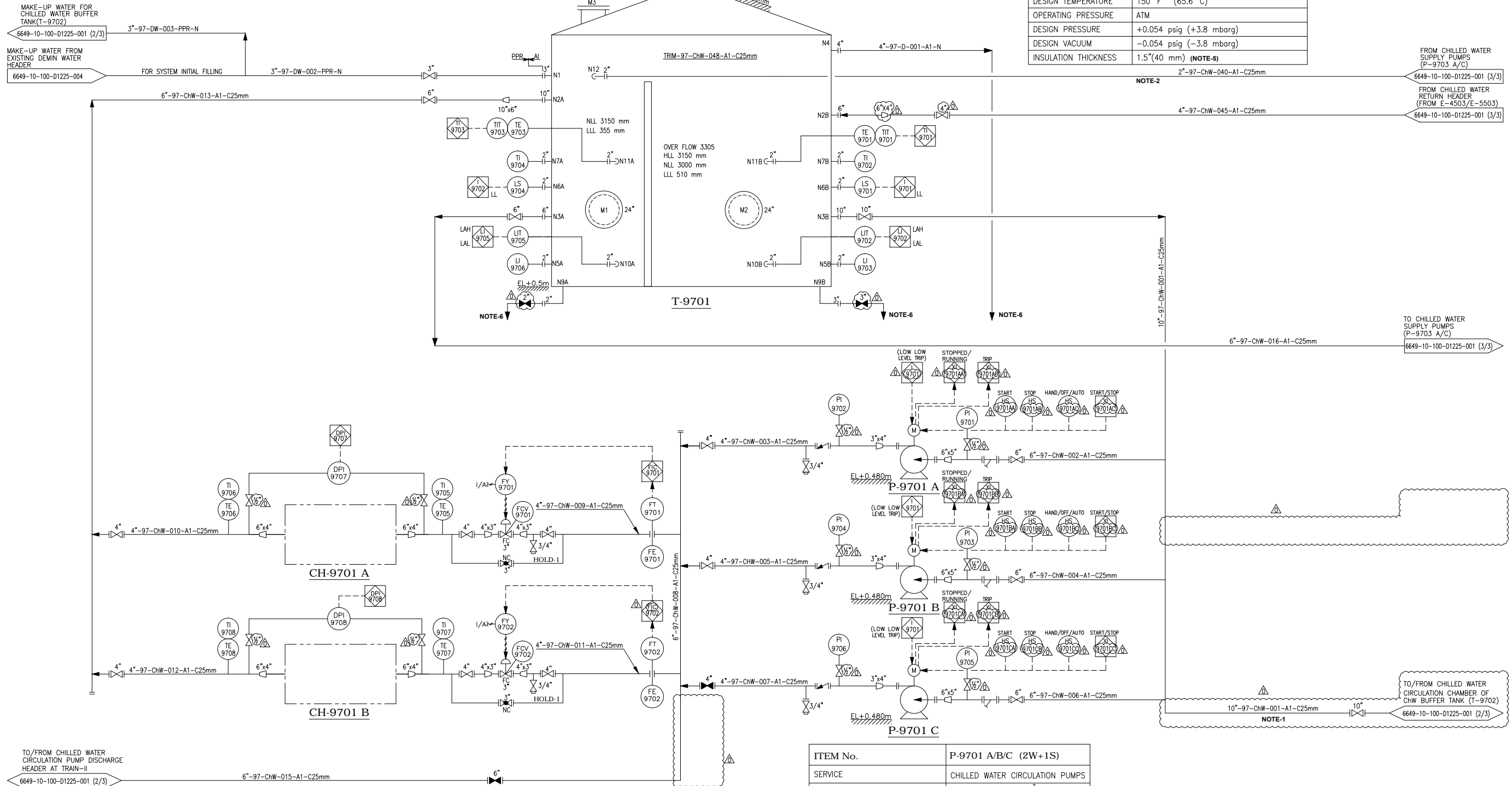
Note :-

The master set of tender documents (services) uploaded on OGDCL’s website (www.ogdcl.com) is the integral part of this TOR.

ITEM No.	CH-9701 A
SERVICE	RENTAL CHILLER PACKAGE I
MODEL	30GX227
DUTY	2.563 MMBtu/hr (751 kW)

ITEM No.	CH-9701 B
SERVICE	RENTAL CHILLER PACKAGE II
MODEL	30GX227
DUTY	2.563 MMBtu/hr (751 kW)

ITEM No.	T-9701
SERVICE	CHILLED WATER BUFFER TANK
SIZE (ID x HEIGHT)	10.2 ft x 11.8 ft (3100 mm x 3585 mm)
OPERATING TEMPERATURE	45 °F TO 74 °F (7.2 °C TO 23.3 °C)
DESIGN TEMPERATURE	150 °F (65.6 °C)
OPERATING PRESSURE	ATM
DESIGN PRESSURE	+0.054 psig (+3.8 mbarg)
DESIGN VACUUM	-0.054 psig (-3.8 mbarg)
INSULATION THICKNESS	1.5"(40 mm) (NOTE-5)



ITEM No.	P-9701 A/B/C (2W+1S)
SERVICE	CHILLED WATER CIRCULATION PUMPS
NORMAL FLOW	543 USGPM (123.3 m ³ /hr)
REATED FLOW	700 USGPM (159.0 m ³ /hr)
OPERATING TEMPERATURE	54 °F (12.2 °C)
DIFF. HEAD @ NORMAL FLOW	220 ft (67 m)
SHUT-OFF HEAD	241.4 ft (73.6 m)

- NOTES:**
- COMBINED SUCTION HEADER FOR BOTH TRAINS IS PROVIDED TO KEEP THE LEVEL BALANCED IN CHW CIRCULATION CHAMBERS OF CHW BUFFER TANKS T-9701 & T-9702.
 - CHILLED WATER SUPPLY PUMPS MIN. FLOW LINE.
 - HIGH POINT VENTS & LOW POINT DRAINS TO BE PROVIDED BY PIPING.
 - ELEVATIONS ARE CONSIDERED FROM GRADE LEVEL, WHICH IS TAKEN AS 0.0m.
 - COLD INSULATION MATERIAL IS FOAM GLASS.
 - TO STORM WATER CHANNEL

- HOLDS:**
- ALL CONTROL VALVES & THEIR BYPASS VALVES SIZES

NO.	REVISION	DRAWN	CHECKED	APPROVED	DATE
0	ISSUED FOR CONSTRUCTION	RHR	ISA	AHQ	23/07/2018
A	ISSUED FOR APPROVAL	RHR	ISA	AHQ	17/07/2018

DESIGN COMPANY: OIL & GAS DEVELOPMENT COMPANY LIMITED.
KPD-TAY GAS PROCESSING PLANT.
PH# 0: +92 (0)22-2761401-8, FAX # +92(0)22 2761405

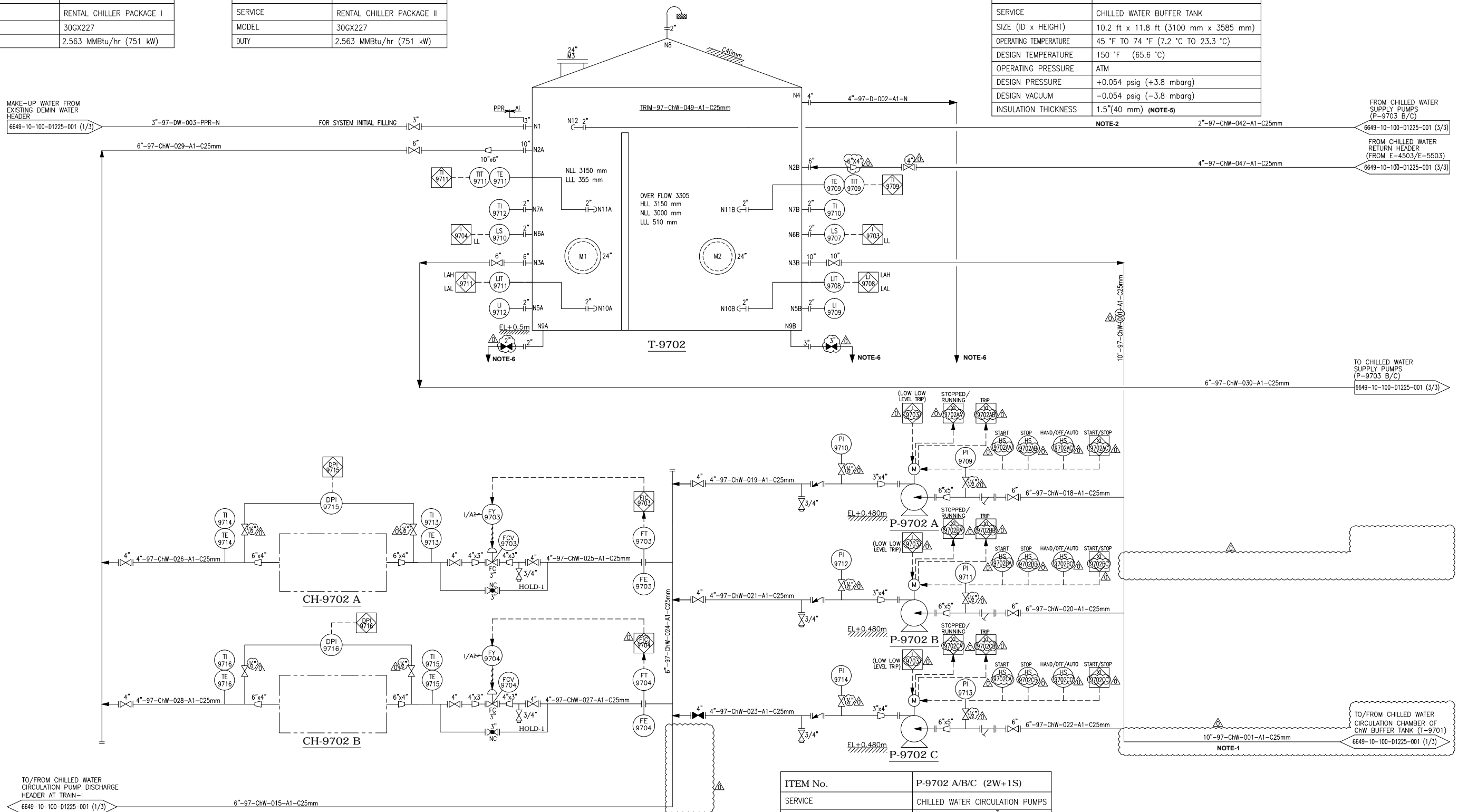
ENGINEERING COMPANY: DESCON ENGINEERING SERVICES & TECHNOLOGY (PVT) LTD.
18 KM Ferozpur Road Lahore-54760 Pakistan
T +92 42 3599 0053, F +92 42 3581 0867, 3581 2072

PROJECT: CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS	
TITLE: PIPING & INSTRUMENT DIAGRAM CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS (TRAIN-I)	
DRAWING NUMBER: 6649-10-100-D1225-001	REV.
CLIENT DOC No. KT-ECR-1001-97-PID-0001	
DEST PROJECT NO. 6649	CLIENT PROJECT NO. 97
DRAWN: RHR	CHECKED: ISA
APPROVED: AHQ	SCALE: NTS
DATE: 23/07/2018	SHEET: 1 OF 3

ITEM No.	CH-9702 A
SERVICE	RENTAL CHILLER PACKAGE I
MODEL	30GX227
DUTY	2.563 MMBtu/hr (751 kW)

ITEM No.	CH-9702 B
SERVICE	RENTAL CHILLER PACKAGE II
MODEL	30GX227
DUTY	2.563 MMBtu/hr (751 kW)

ITEM No.	T-9702
SERVICE	CHILLED WATER BUFFER TANK
SIZE (ID x HEIGHT)	10.2 ft x 11.8 ft (3100 mm x 3585 mm)
OPERATING TEMPERATURE	45 °F TO 74 °F (7.2 °C TO 23.3 °C)
DESIGN TEMPERATURE	150 °F (65.6 °C)
OPERATING PRESSURE	ATM
DESIGN PRESSURE	+0.054 psig (+3.8 mbarg)
DESIGN VACUUM	-0.054 psig (-3.8 mbarg)
INSULATION THICKNESS	1.5"(40 mm) (NOTE-5)



ITEM No.	P-9702 A/B/C (2W+1S)
SERVICE	CHILLED WATER CIRCULATION PUMPS
NORMAL FLOW	543 USGPM (123.3 m ³ /hr)
REATED FLOW	700 USGPM (159.0 m ³ /hr)
OPERATING TEMPERATURE	54 °F (12.2 °C)
DIFF. HEAD @ NORMAL FLOW	220 ft (67 m)
SHUT-OFF HEAD	241.4 ft (73.6 m)

- NOTES:**
- COMBINED SUCTION HEADER FOR BOTH TRAINS IS PROVIDED TO KEEP THE LEVEL BALANCED IN CHW CIRCULATION CHAMBERS OF CHW BUFFER TANKS T-9701 & T-9702.
 - CHILLED WATER SUPPLY PUMPS MIN. FLOW LINE.
 - HIGH POINT VENTS & LOW POINT DRAINS TO BE PROVIDED BY PIPING.
 - ELEVATIONS ARE CONSIDERED FROM GRADE LEVEL, WHICH IS TAKEN AS 0.0m.
 - COLD INSULATION MATERIAL IS FOAM GLASS.
 - TO STORM WATER CHANNEL

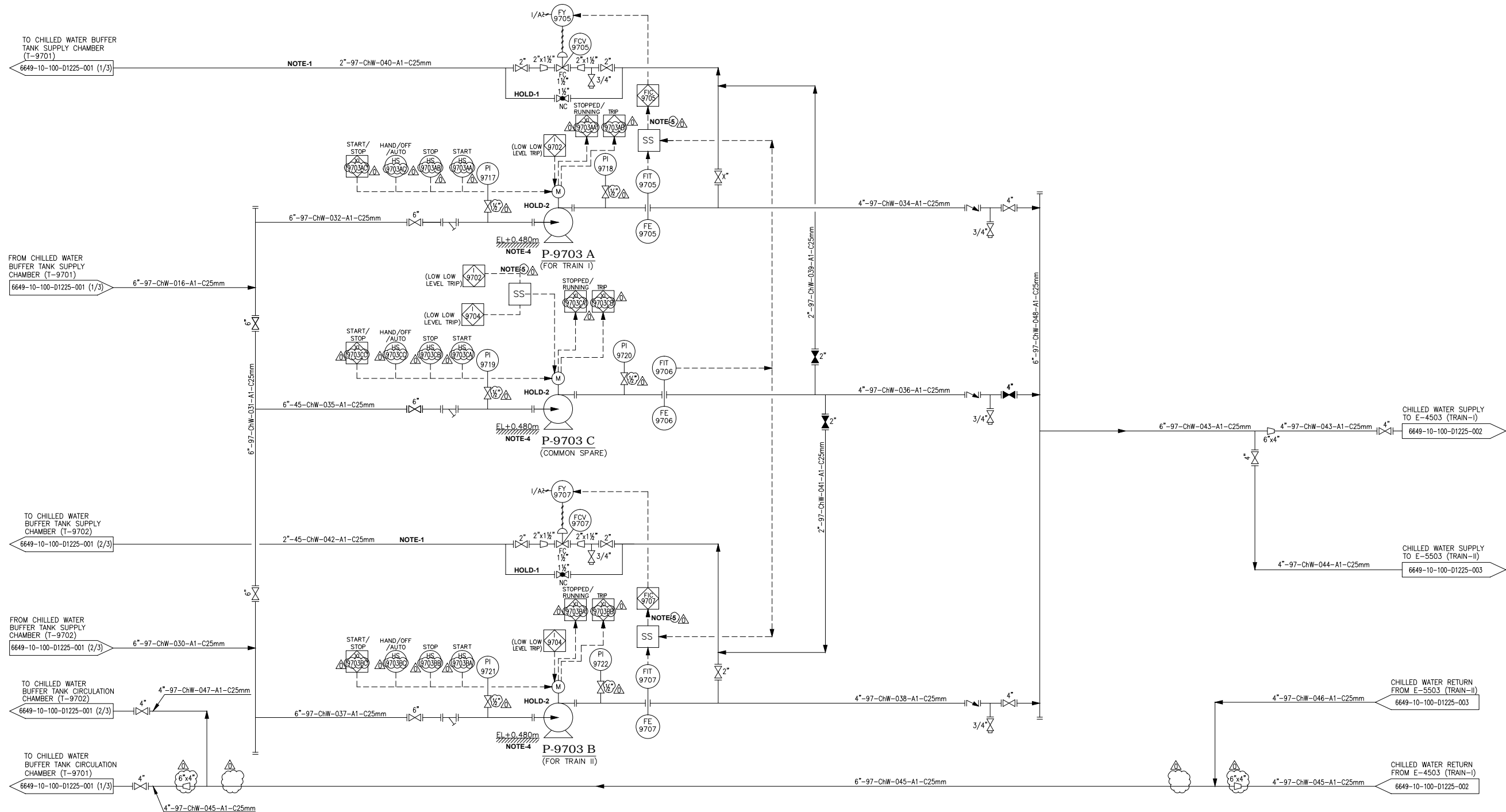
- HOLDS:**
- ALL CONTROL VALVES & THEIR BYPASS VALVES SIZES ARE ON HOLD.

NO.	REVISION	DRAWN	CHECKED	APPROVED	DATE
0	ISSUED FOR CONSTRUCTION	RHR	ISA	AHQ	23/07/2018
A	ISSUED FOR APPROVAL	RHR	ISA	AHQ	17/07/2018

DESIGNATION: OIL & GAS DEVELOPMENT COMPANY LIMITED.
KPD-TAY GAS PROCESSING PLANT.
PH# 0:+92 (0)22-2761401-8, FAX # +92(0)22 2761405

CLIENT: DESCON ENGINEERING SERVICES & TECHNOLOGY (PVT) LTD.
18 KM Ferozpur Road Lahore-54760 Pakistan
T +92 42 3599 0053, F +92 42 3581 0867, 3581 2072

PROJECT:	CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS	
TITLE:	PIPING & INSTRUMENT DIAGRAM CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS (TRAIN-II)	
DRAWING NUMBER:	6649-10-100-D1225-001	
CLIENT DOC No.:	KT-ECR-1001-97-PID-0001	
DEST PROJECT NO.:	6649	CLIENT PROJECT NO.: 97
DRAWN: RHR	CHECKED: ISA	APPROVED: AHQ
SCALE: NTS	DATE: 23/07/2018	SHEET: 2 OF 3



ITEM No.	P-9703 A/B/C (2W+1S)
SERVICE	CHILLED WATER SUPPLY PUMPS
NORMAL FLOW	336 USGPM (76.3 m ³ /hr)
RELATED FLOW	500 USGPM (113.6 m ³ /hr)
OPERATING TEMPERATURE	45 °F (7.2 °C)
DIFF. HEADER @ NORMAL FLOW	135 ft (41.1 m)
SHUT-OFF HEAD	198.5 ft (60.5 m)

NOTES:

- CHILLED WATER SUPPLY PUMPS MIN. FLOW LINE.
- HIGH POINT VENTS & LOW POINT DRAINS TO BE PROVIDED BY PIPING.
- COLD INSULATION MATERIAL IS FOAM GLASS.
- ELEVATIONS ARE CONSIDERED FROM GRADE LEVEL, WHICH IS TAKEN AS 0.0m.
- SIGNAL SELECTOR SWITCH.

HOLDS:

- ALL CONTROL VALVES & THEIR BY PASS VALVES SIZES ARE ON HOLD.
- REQUIREMENT OF REDUCERS AT SUCTION & DISCHARGE OF PUMP WILL BE CONFIRMED LATER.

NO.	REVISION	DRAWN	CHECKED	APPROVED	DATE
0	ISSUED FOR CONSTRUCTION	RHR	ISA	AHQ	23/07/2018
A	ISSUED FOR APPROVAL	RHR	ISA	AHQ	17/07/2018

DESCON ENGINEERING SERVICES & TECHNOLOGY (PVT) LTD.
 18 KM Ferozpur Road Lahore-54760 Pakistan
 T +92 42 3599 0053 , F +92 42 3581 0867, 3581 2072

PROJECT: CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS

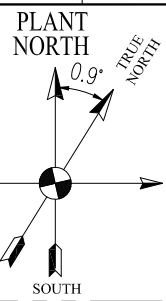
TITLE: PIPING & INSTRUMENT DIAGRAM CHILLED WATER INTERIM SYSTEM FOR KPD-TAY DEHYDRATION UNITS (TRAIN I & II)

DRAWING NUMBER: 6649-10-100-D1225-001

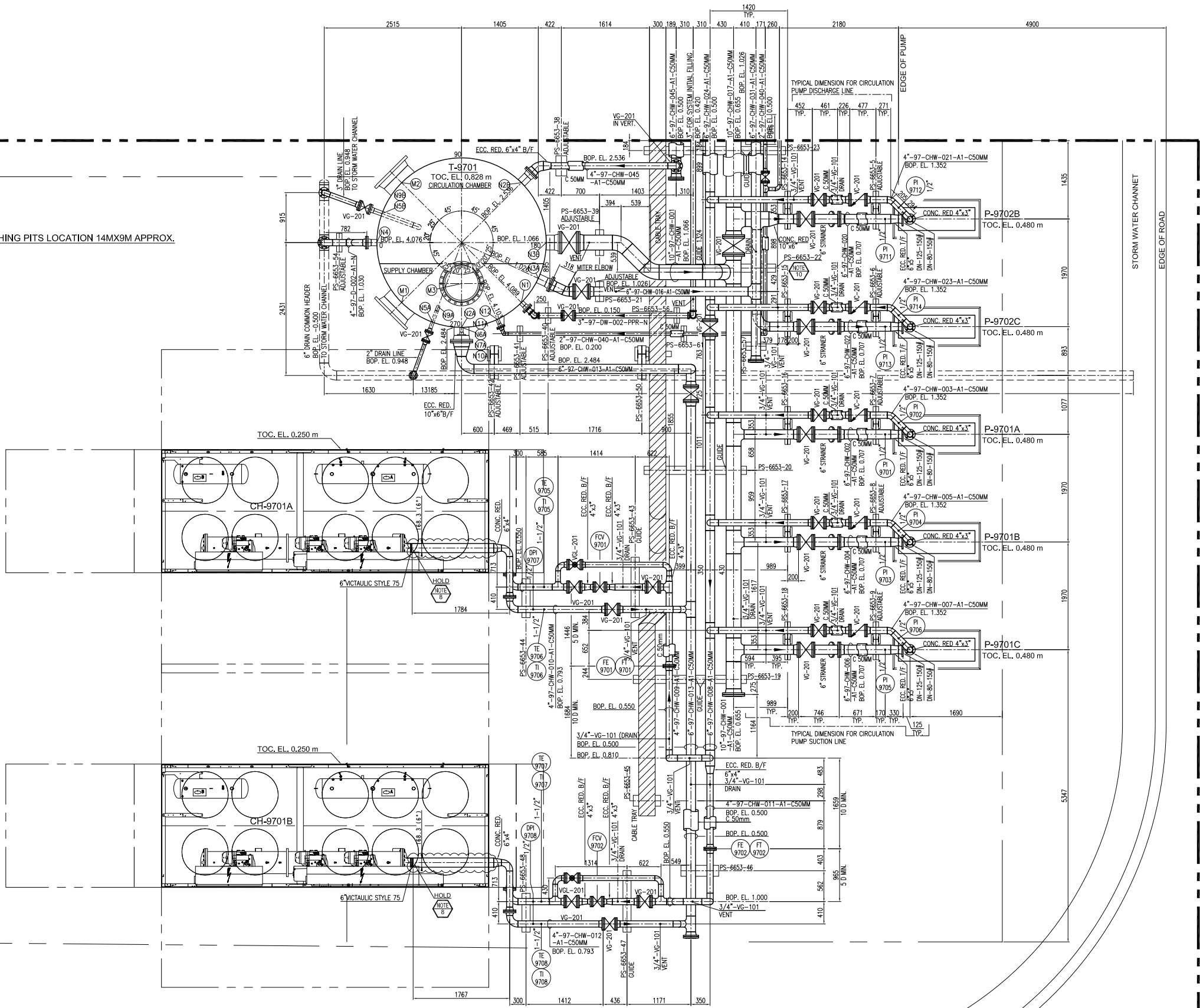
CLIENT DOC No.: KT-ECR-1001-97-PID-0001

DEST PROJECT NO.	CLIENT PROJECT NO.	DRAWN	CHECKED	APPROVED	SCALE	DATE	SHEET
6649	97	RHR	ISA	AHQ	NTS	23/07/2018	3 OF 3

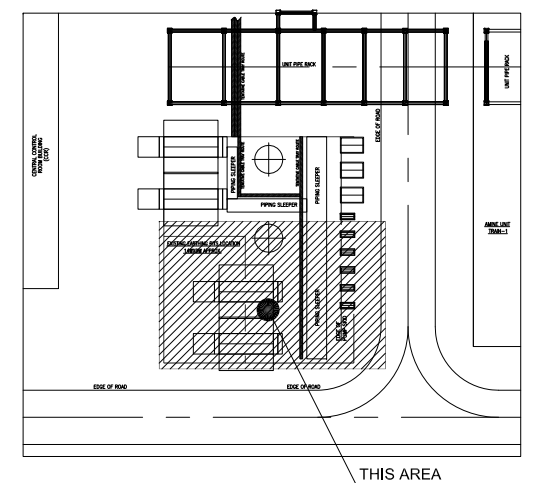
DRAWING LIMIT FOR CONT. SEE DWG . 6653-10-097-D1362-001-01



EXISTING EARTHING PITS LOCATION 14MX9M APPROX.



DRAWING LIMIT FOR CONT. SEE DWG . 6653-10-097-D1362-001-01



KEY PKAN

REFERENCE DRAWINGS

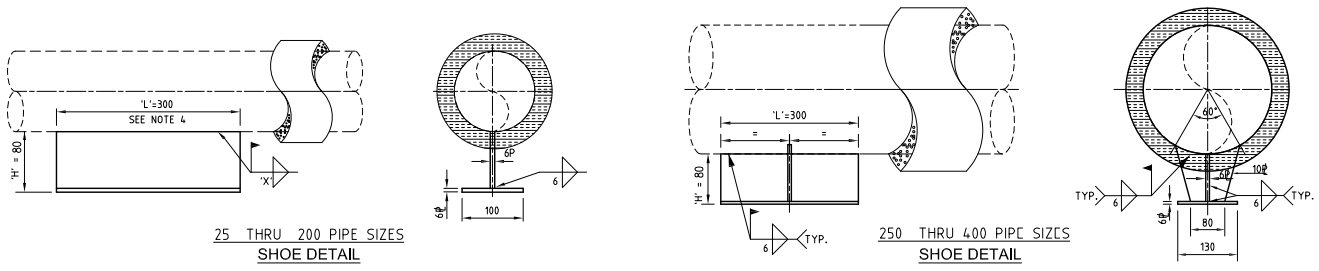
Sr #	DRAWING NO.	DRAWING TITLE
1	165-4-GPP-006	GENERAL PLOT PLAN PC-4 (TE. 981-A)
2	6653-10-097-D1360-001-01	EQUIPMENT PLOT PLAN FOR KPD-TAY - INTERIM CHILLED WATER SYSTEM
3	6649-10-100-D1225-001-01 (1 OF 3)	PIPING & INSTRUMENT DIAGRAM
4	6649-10-100-D1225-001-01 (2 OF 3)	PIPING & INSTRUMENT DIAGRAM
5	6649-10-100-D1225-001-01 (3 OF 3)	PIPING & INSTRUMENT DIAGRAM

GENERAL NOTES:

1. ALL DIMENSION ARE IN MM, UNLESS OTHERWISE STATED.
2. FIELD TO ADJUST & VERIFY THE ELEVATION DIFFERENCES BEFORE FABRICATION.
3. CONTRACTOR TO VERIFY ALL DIMENSIONS AT SITE PRIOR FABRICATION.
4. ALL EQUIPMENT NOZZLE ELEVATION & PROJECTION TO BE FIELD VERIFIED.
5. ALL PIPING VENT & DRAIN TO BE FIELD ADJUSTED.
6. ALL EQUIPMENTS HAVE BEEN TIED FROM EDGE OF ROAD THEREFORE CONTRACTOR TO CONFIRM PLACEMENT OF ALL EQUIPMENT DIMENSION FROM EDGE OF ROAD.
7. ELEVATION ARE CONSIDER FROM GRADE LEVEL, WHICH IS TAKEN AS 0.0M.
8. VENDOR TO CONFORM CONNECTING SPOOL DETAILS.
9. ALL CONTROL VALVE AND THERE BYPASS IS ON HOLD.
10. LINE# 6"-97-CHW-016-A1-C50MM/6"-97-CHW-031-A1-C50MM DO NOT RESTED ON PS-6653-22.

DRAWING LIMIT FOR CONT. SEE DWG . 6653-10-097-D1360-001-01

DRAWING LIMIT FOR CONT. SEE DWG . 6653-10-097-D1360-001-01



25 THRU 200 PIPE SIZES SHOE DETAIL

250 THRU 400 PIPE SIZES SHOE DETAIL

REV.	DATE	DESCRIPTION	PREP'D	CHKD	APPD
1	15/08/18	APPROVED FOR CONSTRUCTION	SUH	SML	-
0	09/08/18	APPROVED FOR CONSTRUCTION	SUH	SML	-

CLIENT:	DESCON ENGINEERING SERVICES & TECH. (PVT.) LIMITED				
OGDCL PROJECT NO.	PROJECT TITLE: DETAIL ENGINEERING OF NEW CHILLED WATER INTERIM SYSTEM AT KPD-TAY				
DESCON. PR. NO. 6653	DOCUMENT TITLE: PIPING PLAN				
SHEET SIZE A3	OGDCL DRAWING No. 1-KT-ECR-1001-97-PPL-0002				SH.No. 1/1
SCALE 1:80	DESCON DRAWING No. 6653-10-097-D1362-001-02				REV. 1