SKRIPSI – ME141501

IMPLEMENTASI NORSOK Z-008 UNTUK EQUIPMENT CRITICALITY ANALYSIS (ECA) PADA GAS CENTRAL PROCESSING PLANT

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Dosen Pembimbing
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Surabaya 2019

SKRIPSI – ME184834

IMPLEMENTASI NORSOK Z-008 UNTUK *EQUIPMENT CRITICALITY ANALYSIS* (ECA) PADA *GAS CENTRAL PROCESSING PLANT*

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Surabaya
2019

BACHELOR THESIS – ME184834

THE IMPLEMENTATION OF NORSOK Z-008 STANDARD FOR EQUIPMENT CRITICALITY ANALYSIS OF GAS CENTRAL PROCESSING PLANT

DIMAS FAJAR PRASETYO
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DEPARTMENT OF MARINE ENGINEERING
Faculty of Marine Technology
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Surabaya
2019

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IMPLEMENTASI NORSOK Z-008 UNTUK EQUIPMENT CRITICALITY ANALYSIS (ECA) PADA GAS CENTRAL PROCESSING PLANT

SKRIPSI

Diajukan Untuk Memenuhi Salah Satu Syarat
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SURABAYA
JANUARI,2019

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LEMBAR PENGESAHAN

IMPLEMENTASI NORSOK Z-008 UNTUK EQUIPMENT CRITICALITY ANALYSIS (ECA) PADA GAS CENTRAL PROCESSING PLANT

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IMPLEMENTASI NORSOK Z-008 UNTUK EQUIPMENT CRITICALITY ANALYSIS (ECA) PADA GAS CENTRAL PROCESSING PLANT

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Abstrak

Sebagai negara penghasil minyak dan gas bumi, Indonesia mengelola berbagai blok migas. Gas central processing plant sebagai fasilitas yang digunakan untuk mengolah gas alam memiliki berbagai komponen yang begitu kompleks dan banyak jumlahnya. Untuk mengurangi resiko terjadinya kegagalan terhadap komponen-komponen tersebut maka perlu dilakukannya perawatan. Namun akan sangat tidak efisien apabila seluruh komponen tersebut mendapat perawatan dengan tingkatan yang sama, mengingat jumlahnya yang begitu banyak dan sumber daya manusia yang dimiliki sangat terbatas jumlahnya. Oleh karena itu, dalam melakukan perawatan terhadap komponen-komponen tersebut perlu memprioritaskannya sesuai dengan tingkat kekritisannya. Pada penelitian ini, dalam menentukan tingkat kekritisan suatu komponen menggunakan metode berbasis risiko sesuai standar yang tersedia, yaitu NORSOK Z-008. Dengan membuat tingkatan hirarki dan asset register seluruh komponen, kemudian ditentukan nilai *probability rating* dan *consequence rating*. Sehingga didapatkanlah *criticality ranking* dari masing-masing komponen tersebut sesuai *criticality risk matrix* yang dikonversi dari *risk matrix* perusahaan, maka didapatkanlah tingkat kekritisan komponen itu ke dalam tingkatan H (tinggi), M (menengah), dan L (rendah). Dengan tingkatan kekritisan komponen ini maka perusahaan tidak perlu lagi melakukan perawatan ke seluruh komponen yang ada. Pada Penelitian ini didapatkan sebanyak 33 *equipment* dengan jumlah subunit/*subsystem* sebanyak 140, dan jumlah komponen seluruhnya adalah 674. Dari 674 komponen sebanyak 28 komponen memiliki tingkat kekritisan H (tinggi), 192 komponen memiliki tingkat kekritisan M (menengah), dan 454 komponen memiliki tingkat kekritisan L (rendah) dari masing-masing tingkat kekritisan yang telah didapatkan, maka tidak perlu melakukan perawatan dengan tingkatan yang sama ke seluruh komponen. Dalam penelitian ini setiap komponen yang memiliki tingkat kekritisan H (tinggi) akan dan dilakukan perawatan berupa Preventive Maintenance, sedangkan komponen dengan tingkat kekritisan M (medium) akan dilakukan Preventive Maintenance apabila diperlukan, dan komponnen dengan tingkat kekritisan L (rendah) akan dilakukan perawatan berupa Corrective Maintenance.

Kata kunci: *Gas Central Proceesing Plant*, *Consequence, Equipment Criticality Analysis, Risk Ranking*

THE IMPLEMENTATION OF NORSOK Z-008 STANDARD FOR EQUIPMENT CRITICALITY ANALYSIS OF GAS CENTRAL PROCESSING PLANT

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Abstrack

As an oil and gas producing country, Indonesia manages various oil and gas blocks. The gas central processing plant as a facility used to process natural gas has a variety of components that are so complex and many in number. To reduce the risk of failure of these components it is necessary to carry out maintenance. But it would be very inefficient if all the components were treated with the same level, considering that there were so many and the human resources that were owned were very limited. Therefore, in taking care of these components it is necessary to prioritize them according to their critical level. In this study, in determining the critical level of a component using risk-based methods according to the available standards, namely NORSOK Z-008. By making a hierarchy and asset level register of all components, then the value of the probability rating and consequence rating is determined. So that the criticality ranking of each component is obtained according to the criticality risk matrix that is converted from the company's risk matrix, so that the critical level of the component is obtained in the levels of H (high), M (medium), and L (low). With the critical level of this component, the company does not need to take care of all the components. In this study, there were 33 equipment with 140 subunits / subsystems, and the total number of components was 674. Of the 674 components as many as 28 components had a critical level of H (high), 192 components had a critical level M (medium), and 454 components had L critical level (low) of each critical level that has been obtained, it is not necessary to carry out maintenance with the same level to all components. In this study every component that has a H (high) criticality level will be treated as a Preventive Maintenance, while a component with a critical level of M (medium) will be Preventive Maintenance if needed, and a component with a L critical level (low) will be treated Corrective Maintenance.

Key word: Gas Central Proceesing Plant, Consequence, Equipment Criticality Analysis, Risk Ranking

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Alhamdulillah, Segala puji syukur kami panjatkan ke hadirat Tuhan Yang Maha Esa, karena atas ridha dan rahmat-Nya skripsi dengan judul "Implementasi Norsok Z-008 untuk Equiment Criticality Analysis" ini dapat diselesaikan tepat waktu meski dengan keterbatasan waktu, pemikiran dan pengetahuan dari penulis.

Skripsi ini disusun sebagai salah satu syarat untuk mendapatkan gelar Sarjana Teknik di Departemen Teknik Sistem Perkapalan Fakultas Teknologi Kelautan Institut Teknologi Sepuluh Nopember Surabaya.

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12. Teman-teman Forda yang telah menyemangati penulis dalam mengerjakan skripsi.
13. Teman-teman semua yang telah menemani perjuangan penulis dari mulai lahir sampai sekarang dengan jalan hidup mereka masing-masing
14. Semua pihak yang tidak dapat penulis sebutkan satu persatu.

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Surabaya, Januari 2019

DAFTAR ISI

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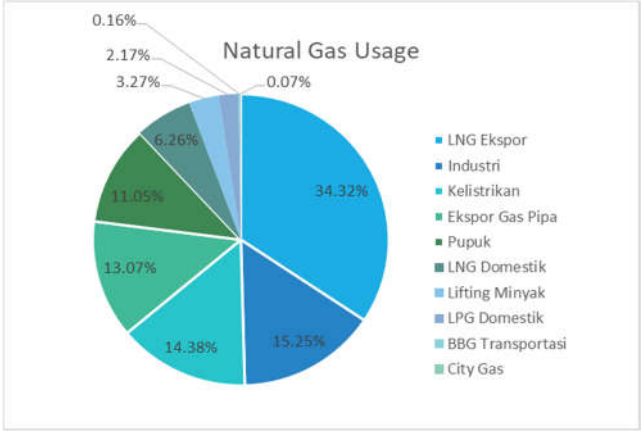
BAB I
PENDAHULUAN

1.1 Latar Belakang

Penggunaan gas alam yang ada di Indonesia dalam berbagai aspek sangat banyak jumlahnya. Berdasarkan data publikasi SKK Migas, Sebanyak 34,32% gas alam digunakan dalam aspek LNG Ekspor, 15,25% digunakan dalam Industri, 14,38% dalam aspek Kelistrikan, 13,07% dalam aspek Ekspor Gas Pipa, 11,05% dalam aspek Pupuk, 6,26% dalam aspek LNG Domestik, 3,27% dalam aspek Lifting Minyak, 2,17% dalam aspek LPG Domestik, 0.16% dalam aspek BBG Transportasi, dan 0,07% dalam aspek City Gas.



Gambar 1. 1 Persentase penggunaan *natural gas* di Indonesia

Sebagai negara penghasil minyak dan gas bumi, Indonesia mengelola berbagai blok migas, dan salah satunya adalah Blok Brantas yang berlokasi di Propinsi Jawa Timur. Blok Brantas ini memiliki letak yang sangat strategis, berdekatan dengan beragam daerah industri yang sangat membutuhkan banyak energi misalnya pabrik pupuk, petrokimia, pembangkit listrik dan perkotaan di Propinsi Jawa Timur

Gas central processing plant sebagai fasilitas yang digunakan untuk mengolah gas alam yang ada di Blok Brantas memiliki berbagai komponen yang begitu kompleks dan banyak jumlahnya. Untuk mengurangi resiko terjadinya kegagalan terhadap peralatan-peralatan tersebut maka perlu dilakukannya perawatan. Namun akan sangat tidak efisien apabila seluruh peralatan mendapat perawatan dengan tingkatan yang sama, mengingat jumlahnya yang begitu banyak dan sumberdaya manusia yang dimiliki sangat terbatas.

Dengan memprioritaskan komponen berdasarkan tingkat kekritisannya ke dalam tingkatan H (tinggi), M (menengah), dan L (rendah), maka sebuah perusahaan tidak perlu menginstruksikan sumber dayanya untuk memberikan perhatian dan perawatan dengan tingkatan yang sama ke seluruh komponen.

Sehingga perusahaan dapat mengefisienkan sumber daya yang ada, menjaga komponen agar berjalan dengan semestinya dan mampu memenuhi target produksi yang telah ditentukan.

Oleh karena itu pada penelitian ini, dalam penentuan kekritisan komponen menggunakan metode berbasis risiko sesuai standar yang tersedia, yaitu NORSOK Z-008 dengan membangun *guideline Equipment Criticality Analysis* terlebih dahulu untuk perusahaan dan melakukan penilaian terhadap tingkat kekritisan komponen-komponen pada *gas central processing unit* mulai dari tingkat *main functions* sampai ke level komponen.

Peneliti sebelumnya yang pernah meneliti tentang kekritisan komponen adalah **Rakesh Kumar Singh dan Makarand S. Kulkani (2013)** dengan judul jurnal "*Criticality Analysis of Power-Plant Equipment Using The Analytic Hierarchy Process*". Penelitian tersebut menunjukkan nilai kekritisan komponen dari peringkat tertinggi sampai terendah dengan metode AHP. Hasil dari penelitian tersebut didapatkan tingkat kekritisan tertinggi pada komponen boiler, dan nilai kekritisan terendah adalah pada boiler feed pump. Peneliti lainnya adalah **Fereshteh Jaderi, et al. (2012)** dengan judul jurnal "*Criticality Analysis for Assets Priority Setting of Abadan Oil Refinery Using AHP and Delphi Techniques*". Penelitian tersebut menerapkan metode AHP and Delphi Techniques untuk menganalisis sumber kekritisan pada plant tersebut. Kesimpulan penelitian tersebut menjelaskan bahwa analisis kekritisan tersebut dapat membantu dalam memprioritaskan aset, meningkatkan manajemen pemeliharaan, mengurangi pemeliharaan biaya dan meningkatkan produksi.

1.2 Perumusan Masalah

Berdasarkan latar belakang yang telah diuraikan di atas, permasalahan yang diangkat dalam tugas akhir ini adalah:

1. Bagaimana menentukan hirarki aset pada *gas central processing plant*?
2. Bagaimana menentukan tingkat kekritisan komponen pada *gas central processing Plant?*
3. Bagaimana menentukan strategi perawatan untuk masing-masing komponen sesuai dengan tingkat kekritisannya?

1.3 Batasan Masalah

Agar penelitian ini tidak menimbulkan permasalahan yang meluas dan diluar topik yang diangkat, maka disusun beberapa batasan masalah, yaitu:

a. *Gas central processing plant* yang menjadi objek studi pada tugas akhir ini adalah milik salah satu perusahaan minyak dan gas yang berada di Indonesia
b. *Rating risiko* berdasarkan kriteria risiko yang telah disepakati dengan perusahaan
c. Matrik risiko yang digunakan adalah matriks risiko milik perusahaan
d. *Equipment* yang akan dilakukan analisa berupa *Mechanical Equipment* (*Static and rotating equipment, Piping*) dan *Instrumentation*

1.4 Tujuan Penelitian

Tujuan yang ingin dicapai dari tugas akhir ini yaitu

1. Dapat menentukan hirarki aset dari *gas central processing plant.*
2. Dapat menentukan tingkat kekritisan komponen-komponen pada gas *central processing* ke dalam tingkatan Tinggi (H), Menengah (M), dan rendah (L)
3. Dapat menentukan strategi perawatan untuk masing-masing komponen sesuai dengan tingkat kekritisannya.

1.5 Manfaat Penelitian

Manfaat yang dapat diperoleh dari penulisan tugas akhir ini adalah :

1. Adanya hirarki ssset untuk Gas Plant
2. Mendapatkan tingkat kekritisan untuk komponen-komponen dengan tingkat kritis Tinggi (H), Menengah (M), dan rendah (L) pada Gas Plant
3. Adanya strategi perawatan berdasarkan risiko terhadap equipment sesuai dengan tingkat kekritisannya.

1.6 Keluaran Penelitian

Keluaran dari penelitian ini adalah berupa

1. Pedoman/*guideline* dalam menentukan *Equipment Criticality Analysis*
2. Database yang berisi aset register seluruh plant dan database *Equipment Criticality Analysis*

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BAB II
DASAR TEORI

2.1 Ikhtisar Permasalahan

Penggunaan gas alam yang ada di Indonesia dalam berbagai aspek sangat banyak jumlahnya. Berdasarkan data publikasi SKK Migas, Sebanyak 34,32% gas alam digunakan dalam aspek LNG Ekspor, 15,25% digunakan dalam Industri, 14,38% dalam aspek Kelistrikan, 13,07% dalam aspek Ekspor Gas Pipa, 11,05% dalam aspek Pupuk, 6,26% dalam aspek LNG Domestik, 3,27% dalam aspek Lifting Minyak, 2,17% dalam aspek LPG Domestik, 0.16% dalam aspek BBG Transportasi, dan 0,07% dalam aspek City Gas.

Indonesia sebagai negara penghasil minyak dan gas bumi yang mengelola berbagai blok migas yang ada di Indonesia. Blok Brantas ini memiliki letak yang sangat strategis, berdekatan dengan beragam daerah industri yang sangat membutuhkan banyak energi misalnya pabrik pupuk, petrokimia, pembangkit listrik dan perkotaan di Propinsi Jawa Timur.

Gas central processing plant sebagai fasilitas yang digunakan untuk mengolah gas alam yang ada di Blok Brantas memiliki berbagai komponen yang begitu kompleks dan banyak jumlahnya. Untuk mengurangi resiko terjadinya kegagalan terhadap peralatan-peralatan tersebut dan meningkatkan durabilitasnya maka perlu dilakukannya perawatan terhadap komponen-komponen tersebut. Namun akan sangat tidak efisien apabila seluruh komponen mendapat perhatian dan perawatan dengan tingkatan yang sama, mengingat jumlahnya yang begitu banyak dan sumberdaya manusia yang dimiliki sangat terbatas.

Dengan memprioritaskan komponen berdasarkan tingkat kekritisannya ke dalam tingkatan H (tinggi), M (menengah), dan L (rendah), maka sebuah perusahaan tidak perlu menginstruksikan sumber dayanya untuk memberikan perhatian dan perawatan dengan tingkatan yang sama ke seluruh komponen. Sehingga perusahaan dapat mengefisienkan sumber daya yang ada, menjaga komponen agar berjalan dengan semestinya dan mampu memenuhi target produksi yang telah ditentukan.

Definisi peralatan kritis memiliki arti yang berbeda untuk setiap perusahaan. Menurut Norsok Z-008 2001, definisi peralatan penting adalah peralatan yang kegagalannya dapat mengakibatkan biaya perbaikan / penggantian yang tinggi, mengurangi keteraturan produksi (kehilangan produksi) atau risiko HSE (Kesehatan, Keselamatan, dan Lingkungan) yang tidak dapat diterima. Dalam pendekatan baru strategi pemeliharaan seperti pemeliharaan pusat keandalan (RCM) atau pemeliharaan dan inspeksi berbasis risiko, kegiatan pemeliharaan direncanakan diprioritaskan dan dilaksanakan berdasarkan kekritisan peralatan sehubungan dengan HSE dan kriteria penerimaan produksi.

Klasifikasi peralatan perlu dilakukan untuk klasifikasi yang jelas dalam pemantauan peralatan karena ada banyak peralatan dalam jumlah dan variasi. Cara efektif dan optimal dalam perawatan adalah mengurutkan peralatan

berdasarkan level kritis. Analisis kekritisan perlu mengidentifikasi daftar peralatan penting. Keluaran dari analisis kekritisan adalah klasifikasi kekritisan. Klasifikasi kekritisan akan memberikan penilaian terhadap konsekuensi terhadap HSE, dan aspek ekonomi.

Oleh karena itu pada penelitian ini, dalam penentuan kekritisan komponen menggunakan metode berbasis risiko sesuai standar yang tersedia, yaitu NORSOK Z-008 dengan membangun *guideline Equipment Criticality Analysis* terlebih dahulu untuk perusahaan dan melakukan penilaian terhadap tingkat kekritisan komponen-komponen pada *gas central processing unit* mulai dari tingkat *main functions* sampai ke level komponen.

Dengan lingkungan persaingan yang semakin meningkat dan pembukaan sektor gas alam yang berkelanjutan akan menjadi kunci dari kebutuhan sumber daya manusia. Untuk memiliki keunggulan atas yang lain, seseorang harus memiliki waktu yang sangat tinggi dengan biaya rendah. Untuk ini, kegiatan perawatan yang tepat adalah satu-satunya jawaban. Untuk mencapai hal ini, kita perlu memprioritaskan kegiatan pemeliharaan sesuai kekritisan peralatan.

2.2 *Gas Central Processing Plant*

Pengolahan gas alam terdiri dari berbagai macam proses pemisahan hidrokarbon dan fluida dari gas alam murni.[1] Sebelum gas alam dapat diangkut atau disalurkan ke konsumen, gas harus dimurnikan terlebih dahulu. Gas alam harus dipisahkan dari berbagai kontaminan dan fluida seperti minyak mentah, dan gas hidrokarbon lain seperti etana, propana, butana dan pentana. Selain itu, gas alam mentah juga mengandung uap air, hidrogen sulfida (H2S), karbon dioksida, helium, nitrogen dan senyawa lainnya. Sehingga untuk mendapatkan gas alam yang siap untuk disalurkan ke konsumen, maka perlu dilakukan beberapa proses pengolahan.

Dalam proses pengolahan gas alam secara umum terdapat berbagai macam proses antara lain:

- *Manifolds* dan *gathering*
  Manifoldsdan gathering berfungsi sebagai titik temu dari berbagai pipeline yang terhubung ke sumur gas untk kemudian gas akan disalurkan menuju ke separator. Pada Plant yang berada di darat, masing-masing aliran dari beberapa sumur dialirkan ke fasilitas produksi melalui jaringan pipa dan sistem manifold. Tujuannya adalah untuk memungkinkan pengaturan produksi dapat dipilih dari sumur yang tersedia.
  Pada proses ini terdapat beberapa komponen atau fasilitas seperti *pipelines*, Risers, *Test and injection manifolds*

[1] Havard Devold, Oil and gas production handbook (ABB AS, 2006), 16.

Gambar 2. 1 Gathering System
(Sumber: Oil and Gas production handbook: an introduction to oil and gas production)

- *Separation*
  Separation berfungsi untuk memisahkan gas dengan berbagai macam fluida atau kontaminan yang ada. Gas yang berasal dari sumur memberikan kombinasi gas, minyak dan air dan berbagai kontaminan yang harus dipisahkan dan diproses. Oleh karena itu gas harus dipisahkan dari minyak dan kontaminan yang ada. Dalam proses pemisahan yang terjadi di separator, gas dimasukkan ke dalam separator yang memungkinkan gas untuk keluar melalui outlet yang berada di atas separator karena masa jenis yang rendah, sedangkan air akan menetap di bagian bawah dan minyak akan diambil di bagian tengah.
  Pada proses ini terdapat beberapa komponen atau fasilitas seperti *Test Separators and Well test, Production separators, Second stage separator, Third stage separator, Coalescer, Electrostatic Desalter, Water treatment, dsb.*

Gambar 2. 2 Separator
(Sumber: Oil and Gas production handbook: an introduction to oil and gas production)

- *Gas treatment* dan *Compression*
  Gas dari pemisah umumnya kehilangan begitu banyak tekanan sehingga harus dikompres ulang untuk diangkut. Kompresor turbin mendapatkan energinya dengan menggunakan sebagian kecil dari gas alam yang dikompresinya. Turbin itu sendiri berfungsi untuk mengoperasikan kompresor sentrifugal, yang berisi jenis kipas yang mengompres dan memompa gas alam melalui pipa.
  Pada proses ini terdapat beberapa komponen atau fasilitas seperti *Heat exchangers, Scrubber dan Reboilers, Compressor, Gas Treatment*
- *Gas Storage, Metering* dan *Export*
  Stasiun pengukur memungkinkan operator untuk memantau dan mengelola gas alam dan minyak yang diekspor dari instalasi produksi. Stasiun pengukur ini menggunakan alat ukur khusus untuk mengukur gas alam atau minyak saat mengalir melalui pipa, tanpa menghambat gerakannya.
  Pada proses ini terdapat beberapa komponen atau fasilitas seperti *Fiscal Metering, storage, marine loading, pipeline terminal.*
- *Utility System*
  Sistem utilitas adalah sistem yang tidak menangani aliran proses hidrokarbon, tetapi menyediakan beberapa utilitas untuk keselamatan atau mendukung proses utama seperti *fire fighting system, electricity system* dsb

2.3 Pedoman Tata Kerja SKK Migas

Satuan Kerja Khusus Pelaksana Kegiatan Usaha Hulu Minyak dan Gas Bumi (disingkat: SKK Migas) adalah institusi yang dibentuk oleh Pemerintah Republik Indonesia melalui Peraturan Presiden (Perpres) Nomor 9 Tahun 2013 tentang Penyelenggaraan Pengelolaan Kegiatan Usaha Hulu Minyak dan Gas Bumi. Dalam menjalankan tugasnya, SKK Migas membentuk Pedoman sebagai pengawasan dan pengendalian terhadap Kontraktor Kontrak Kerja Sama ("KKKS").

Maksud dari Pedoman Tata Kerja ("PTK") ini adalah sebagai panduan proses pengawasan dan pengendalian oleh SKK Migas terhadap kegiatan pemeliharaan yang dilakukan KKKS yang telah mendapatkan persetujuan Plan Of Development ("POD") dan telah beroperasi, serta pedoman bagi KKKS tersebut dalam melaksanakan kegiatan pemeliharaan. Salah satu Pedoman Tata Kerjanya adalah PTK-041/SKKO0000/2015/S0

Dalam Pedoman Tata Kerja SKK Migas Nomor: PTK-041/SKKO0000/2015/S0 tentang pemeliharaan fasilitas produksi minyak dan gas bumi, dalam prinsip-prinsip manajemen pemeliharaan perlu adanya data dan dokumen yang terkait dengan program pemeliharaan antara lain data integritas dan keandalan salah satunya adalah criticality ranking.

2.4 Norsok Standard

Standar NORSOK dikembangkan oleh industri minyak Norwegia untuk memastikan keamanan, nilai tambah dan efektivitas finansial untuk perkembangan dan operasi industri minyak bumi dan gas. Lebih jauh lagi, standar NORSOK, sedapat mungkin, dimaksudkan sebagai referensi dalam peraturan pemerintah. **Tabel 2.1** Berikut beberapa *guideline* dari Norsok Standard yang ada keterkaitan dengan pengolahan minyak dan gas bumi.

Tabel 2. 1 Contoh guideline dari Norsok Standard

No.	Code	Judul
1	Z-DP-002	Coding system
2	Z-008	Risk based maintenance and consequence classification
3	Z-013	Risk and emergency preparedness assessment
4	Z-016	Regularity Management & Reliability Technology
5	P-002	Process system design

Tujuan standar NORSOK Z-008 ini adalah memberikan persyaratan dan panduan untuk:

- Pembentukan hirarki teknis,
- Klasifikasi konsekuensi terhadap suatu peralatan,
- Bagaimana menggunakan klasifikasi konsekuensi untuk manajemen pemeliharaan,
- Bagaimana menggunakan analisis risiko untuk menetapkan dan memperbarui program PM,
- Membantu dalam membuat keputusan terkait pemeliharaan dengan menggunakan analisis risiko yang mendasarinya,
- Evaluasi *spareparts*.

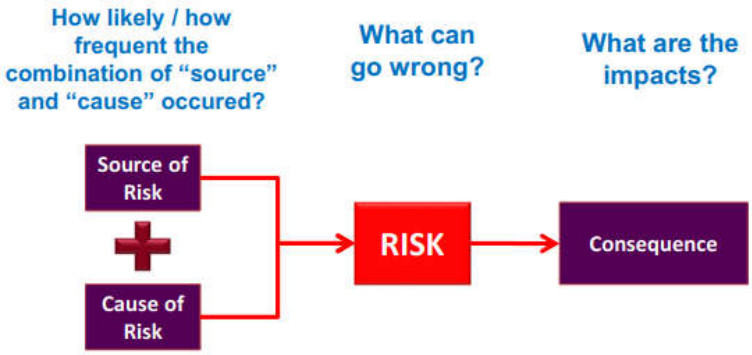
2.5 Konsep Risiko

Berdasarkan ISO 310000: Risk Management Risiko, didefinisikan sebagai efek dari ketidakpastian dari objek. efek disini merupakan deviasi dari keadaan normal, sedangkan objek pada pengertian tersebut memiliki aspek yang berbeda (seperti *financial,* kesehatan, keselamatan, dan tujuan lingkungan) dan bisa diaplikasikan pada level yang berbeda.

Pemahaman mengenai risiko akan lebih mudah apabila mengenal anatomi dari risiko itu sendiri. risiko dapat dipahami dengan 3 (tiga) pertanyaan:

1. *How likely / how frequent the combination of "source" and "cause" occurred?*
   Adalah pertanyaan yang menggambarkan seberapa sering sumber risiko bertemu dengan penyebab terjadinya risiko.

2. *What can go wrong?*
   Apa yang salah dengan objek yang dianalisis merupakan pendekatan untuk mengenal risiko. risiko akan terjadi apabila terjadi pertemuan antara cause of risk dan source of risk. Sehingga risiko memiliki sifat terjadi pada masa depan sehingga risiko bisa dihindari atau dikurangi dengan mengaplikasikan preventive maintenance.
3. *What are the Impact?*
   Apa akibat yang akan ditimbulkan bila risiko terjadi? Consequence ini bisa meliputi kesehatan, keamanan, lingkungan, dan financial.



Gambar 2 1 Risk Anatomi
(Sumber: In-House Trining RBI by Dwi Priyanta)

Mmenurut Norsok Z-013 2010 kombinasi probabilitas terjadinya bahaya dan tingkat keparahan bahaya itu. Risiko dapat dinyatakan dalam rumus (1) seperti yang ditunjukkan di bawah ini.

Risiko = Probabilitas kejadian (frekuensi) x Konsekuensi (1)

Pengkategorian kerugian digunakan untuk melakukan pendekatan terhadap evaluasi risiko. Kategori kerugian sesuai dengan Norsok Z-013 antara lain:

1. Kehilangan nyawa dalam kecelakaan besar
2. Kehilangan nyawa dalam kecelakaan lain
3. Cedera pribadi yang akut
4. Penyakit kronis
5. Mengurangi kualitas hidup; mengurangi fungsionalitas
6. Polusi akut pada lingkungan eksternal
7. Pencemaran berkelanjutan pada lingkungan eksternal
8. Kerusakan Material
9. Hilangnya produksi, (bisa termasuk produksi yang tertunda dan rusak)
10. Hilangnya data / informasi / pengetahuan
11. Hilangnya reputasi

Ke 11 kategori ini harus mencakup sebagian besar potensi kerugian terkait kesehatan, keselamatan, lingkungan, dan biaya. Selain itu, hilangnya data, informasi, pengetahuan, dan reputasi juga disertakan.

2.6 Metode Kualitatif

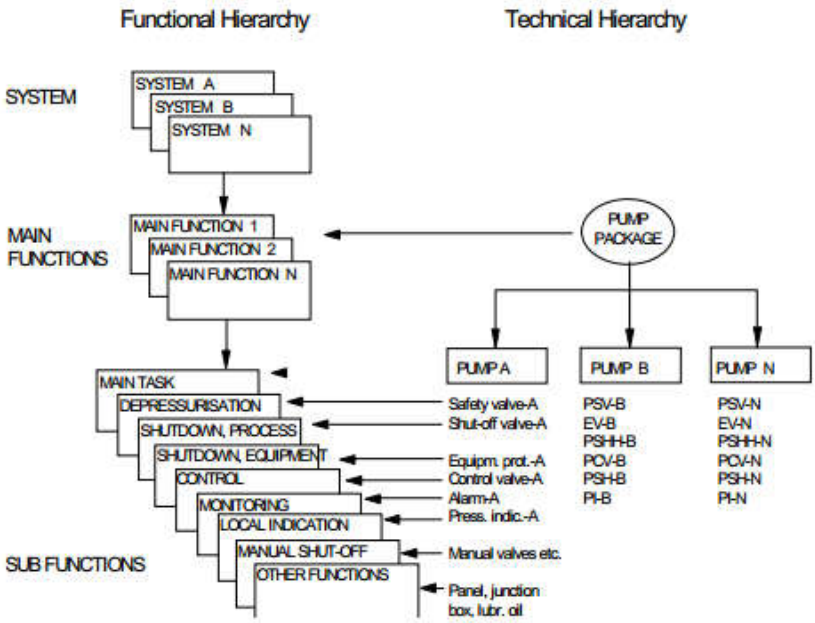
Menurut Alvis (2018) Metode kualitatif adalah metode analisis secara kualitatif melalui perspektif praktis dari suatu permasalahan. Metode kualitatif paling baik digunakan oleh para praktisi memiliki pengalaman dalam melakukan penilaian secara kualitatif. Contohnya metode kualitatif an seperti *Equipment Criticality Analysis* (ECA), *Failure Modes Effect and Analysis* (FMEA), *Failure Modes Effect and Criticality Analysis* (FMECA), *Fault Tree Analysis* (FTA) dan *Reliability Centered Maintenance* (RCM). Analisis kualitatif digunakan untuk menganalisis sistem untuk mencari jenis aktivitas yang paling efektif dalam hal kegagalan.

2.7 Hirarki Sistem

Menurut Kamus Besar Bahasa Indonesia, Arti kata hirarki adalah urutan tingkatan atau pangkat kedudukan. Penentuan hirarki ini dilakukan dengan tujuan mengklasifikasikan suatu sistem ke dalam suatu tingkatan dari yang paling tinggi sampai yang paling rendah.

Berdasarkan Norsok Z-008, hirarki dibagi menjadi dua, yaitu hirarki teknis dan hirarki fungsional.[2] Perbedaan antara hirarki teknis dan fungsional ditunjukkan pada **gambar 2.3**

[2] Norsok Standard Z-CR-008, *Common Requirements criticality classification method* (Norwegian Technology Centre, Rev. 2,1996), 3.

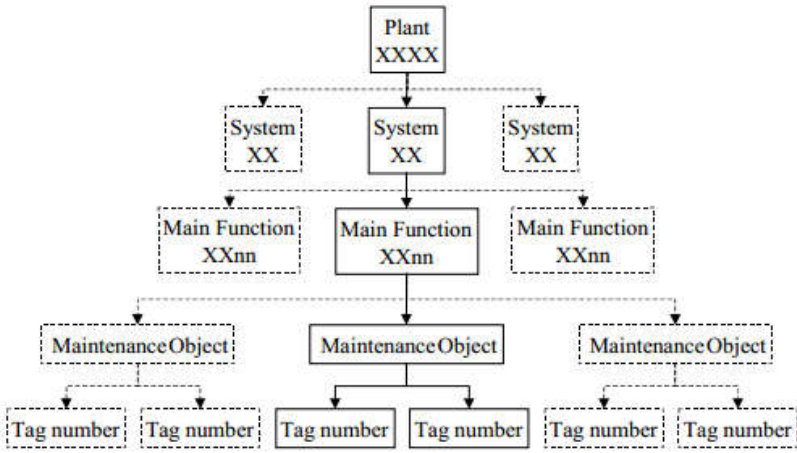


Gambar 2. 3 Perbedaan hirarki fungsional dan hirarki teknis
(Sumber: Norsok Z-008)

2.7.1 Hirarki Fungsional Norsok Z-008

Pada hirarki fungsional, suatu sistem dibagi menjadi berbagai tingkatan. Fungsi utama (mencakup keseluruhan sistem), sub-fungsi, sampai ke tingkat komponen. Fungsi utama dibagi menjadi beberapa sub-fungsi. Sub-fungsi tersebut terdapat komponen-komponen yang menjalankan tugas sesuai dengan sub-fungsi tersebut. [3]

[3] Norsok Standard Z-CR-008, *Common Requirements criticality classification method* (Norwegian Technology Centre, Rev. 2,1996), 4.



Gambar 2. 4 Hirarki Fungsional
(Sumber: Norsok Z-008)

- Mengidentifikasi *Main Function* (Fungsi Utama)
  Setiap sistem dibagi menjadi beberapa fungsi utama dan fungsi utama tersebut dicirikan dengan melakukan tugas utama dalam sistem tersebut. (misalnya, *Heat Exchanging*, *Pumping*, *Separating* atau *Regenerating*). Dalam Hal ini, Norsok Z-008 memberikan contoh fungsi utama seperti pada **tabel 2.2** berikut.

Tabel 2. 2 Contoh *Main Function* Norsok Z-008

MF	Examples
Accumulation	Instrument/plant air, heating/cooling medium
Cementing	
Circulating	Heating/cooling medium
Compressing	Gas export/injection
Cooling	
Detecting	Fire and gas
Distributing	(main/emergency) power, hydraulic, tele
Drying	Air, gas
Expanding	
Filling	Lubrication oil
Filtering	
Fire Fighting	Sprinkler, deluge, water spray, foam, aqueous film foaming foam, hydrants
Generating	(main/emergency power)
Heating	

MF	Examples
Injecting	Chemicals, gas water
Life Saving	Mob, lifeboat, basket, raft, escape chute
Lifting	Deck Crane, personnel, goods
Logging	well, production, mud
Manoevering	
Metering	fiscal (gas/oil), CO2
Pumping	Oil/gas export, bilge, seawater
Regenerating	Glycol
Scrubbing	
Separating	Production, test, cyclone-(water,sand,oil),centrifuge
Storing	Chemicals, gas water
Transferring	Oil/gas pipe (riser)

- Menentukan *Main Function (MF) Redudancy*
  Penentuan Redudancy didasarkan pada Equipment yang memiliki dua atau lebih Equipment yang sama dan fungsi yang sama dipasang secara parallel dengan tujuan untuk menghindari hilangnya fungsi system. Dalam Hal ini, Norsok Z-008 memberikan contoh pengklasifikasian *redudancy* seperti pada **tabel 2.3** berikut.

Tabel 2. 3 Tabel *Redudancy* MF Norsok Z-008

Red	Redudancy degree definition
A	No redundancy i.e. the entire MF is required to avoid any loss of function.
B	One parallel unit can suffer a fault without influencing the function.
C	Two or more parallel units can suffer a fault at the same time without influencing the function.

- Mengidentifikasi sub-fungsi
  Sub-fungsi menjalankan tugas untuk mendukung fungsi utama (system). Berikut merupakan contuh Sub-fungsi sesuai denfan standard Norsok Z-008, antara lain:
  - *Main task*
  - *Pressure relief.*
  - *Shutdown*, proses.
  - *Shutdown*, peralatan.
  - *Controlling*.
  - *Monitoring*.

- *Local Indication.*
- *Manual shutdown.*
- *Other function.*

- Menentukan *Sub Function (SF) Redudancy*
  Penentuan Redudancy didasarkan pada sub-fungsi yang memiliki dua atau lebih sub-fungsi yang sama dalam satu fungsi utama dan dirangkai secara parallel dengan tujuan untuk menghindari hilangnya fungsi system. Dalam Hal ini, Norsok Z-008 memberikan contoh pengklasifikasian *redudancy* sesuai pada **tabel 2.4** berikut.

Tabel 2. 4 Tabel *Redudancy* SF Norsok Z-008

Red	Redudancy degree definition
A	No unit can suffer a fault without influencing the function.
B	One unit can suffer a fault without influencing the function.
C	Two or more parallel units can suffer a fault at the same time without influencing the function.

2.7.2 Hirarki Teknis Norsok Z-008

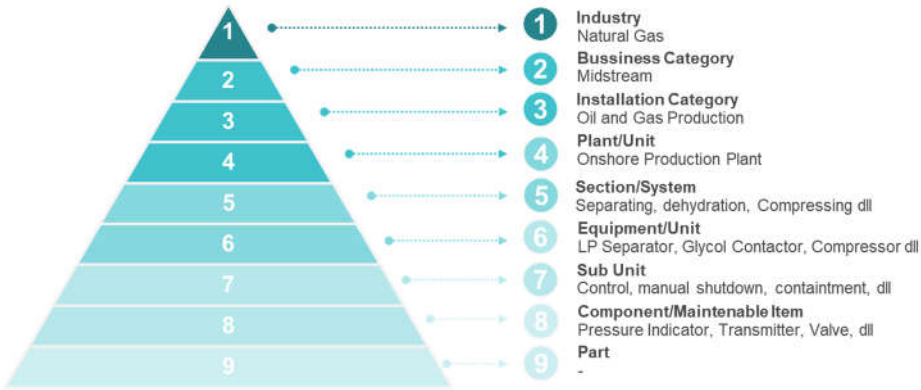
Hirarki teknis menunjukkan bagaimana suatu peralatan dibangun secara teknis dan digunakan dalam program perawatan, perencanaan perawatan secara preventif/korektif dan untuk mendefinisikan data historis, dan lain-lain selama sistem beroperasi.[4]

Hirarki teknis mengidentifikasi unit (tag) dimana terdiri dari suatu sistem dan posisinya dalam hierarki teknis, sebagai konsekuensi dari fungsi dalam sistem. Sistem membentuk level tertinggi dalam hirarki. Fungsi utama dan sub-fungsi dan diidentifikasi dalam diagram alur dan P&ID.

2.7.3 Hirarki/*Taxonomy* ISO 14224

Berdasarkan ISO 14224, Hirarki/Taksonomi adalah identifikasi komponen secara sistematis ke dalam beberapa grup dalam suatu hierarki. Hubungan hierarkis ini didefinisikan sebagai hubungan "orangtua-anak". dapat juga didefinisikan pengklasifikasian item secara sistematis menjadi kelompok berdasarkan faktor-faktor yang umum untuk beberapa item. Hirarki ISO 14224 terdiri dari 9 level tingkatan dimulai dari level yang tertinggi yaitu Industry dan level terbawah yaitu Parts. **Gambar 2.5** menunjukkan hirarki ISO 14224.

[4] Norsok Standard Z-CR-008, *Common Requirements criticality classification method* (Norwegian Technology Centre, Rev. 2,1996), 5.



Gambar 2. 5 Hirarki ISO 14224:2016
(Sumber: ISO 14224:2016)

Tabel 1 memberikan deskripsi dan contoh dari berbagai tingkat taksonomi. Level 1 hingga Level 5 digunakan untuk mengelompokkan peralatan sesuai dengan bagaimana suatu peralatan digunakan sesuai dengan jenis industrinya. Level 6 sampai Level 9 terkait dengan pengelompokan peralatan secara teknis.

Tabel 2. 5 Contoh deskripsi hirarki ISO 14224:2016

Main category	level	Taxonomy hierarchy	Definition	Examples
Use/location	1	Industry	Type of main industry	Petroleum, natural gas, petrochemical, etc
	2	Business category	Type of business or processing stream	Upstream (E and P), midstream, downstream (refining), petrochemical
	3	Installation category	Type of facility	Oil/gas production, transportation, drilling, LNG, refinery, petrochemical
	4	Plant/Unit category	Type of plant/unit	Platform, semi-submersible, hydrocracker, ethylene cracker, polyethylene, etc
	5	Section/ System	Main section/system of the plant	Compression, natural gas, liquefaction, vacuum gas oil, methanol regeneration, oxidation section, etc

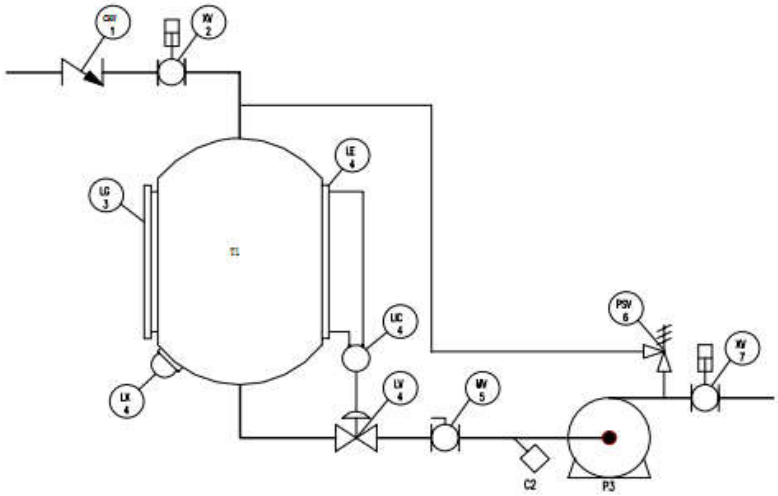
Main category	level	Taxonomy hierarchy	Definition	Examples
Equipment subdivision	6	Equipment class/unit	Class of similar equipment units. Each equipment class contains comparable equipment units (e.g. compressors).	Heat exchangers, compressors, piping, pumps, gas turbines, subsea wellhead and X-mas trees, etc.
	7	Subunit	A subsystem necessary for the equipment unit to function	Lubrication subunit, cooling subunit, control and monitoring, heating subunit, pelletizing subunit, subunit, etc.
	8	Component / Maintainable item (MI) [a]	The group of parts of the equipment unit that are commonly maintained (repaired/ restored) as a whole	Cooler, coupling, gearbox, lubrication oil pump, instrument loop, motor, valve, filter, pressure sensor, temperature sensor, electric circuit
	9	Part [b]	A single piece of equipment	Seal, tube, shell, impeller, gasket, filter plate, bolt, nut, etc.

a For some types of equipment, there might not be a MI; e.g. if the equipment class is piping, there might be no MI, but the part could be "elbow".
b While this level can be useful in some cases, it is considered optional in this International Standard.

2.8 Pendataan Komponen (*Asset Register*)

Setiap peralatan yang ada pada suatu sistem diidentifikasi oleh nomor tagnya masing-masing. Terkadang diperlukan pembuatan tag baru untuk mengidentifikasi fungsi utama terdiri dari barang-barang paralel (peralatan

redundan)[5]. Namun apabila sebelumnya sudah ada nomor tag seperti itu maka harus digunakan. **Gambar 2.6** menunjukkan suatu sistem X. dan **tabel 2.6** menunjukkan contoh *asset register*



Gambar 2. 6 Contoh gambar P&ID sistem X
(Sumber: Norsok Z-008)

Sistem ini terdiri dari dua fungsi utama yaitu menyimpan dan memompa. Boarder antara dua fungsi utama diatur pada flens outlet pada LV-valve. Tag yang dipilih untuk mengidentifikasi fungsi utama 'Penyimpanan' adalah T1, dan tag yang mengidentifikasi fungsi utama 'Pemompaan' adalah P3.

Tabel 2. 6 Contoh hirarki teknis Norsok Z-008

Tingkatan Hirarki						Service Description
1	2	3	4	5	6	
TI						Storage tank (Penyimpanan)
	CGHVI					Storage tank inlet check valve
	LG3					Storage tank level gauge
	LV4					Storage tank level valve
		LE4				Storage tank level element
		LIC4				Storage tank level indicator/controller
		LX4				Storage tank level radioactive source
	XV2					Storage tank inlet valve
P3						Pump (Pemompaan)

[5] Norsok Standard Z-CR-008, *Common Requirements criticality classification method* (Norwegian Technology Centre, Rev. 2,1996), 10.

Tingkatan Hirarki						Service Description
1	2	3	4	5	6	
	C2					Pump inlet filter
		PDI8				Inlet filter diff. pressure indicator
	MV5					Pump inlet valve
	PSV6					Pump pressure safety valve
	XV7					Pump outlet valve

2.9 *Probability Rating*

Data mode kegagalan komponen diperoleh dari bank data OREDA-2002. Contoh *probability rating* yang diambil dari Standard norsok Z-008

Tabel 2. 7 Contoh *Probability Rating*

Freq.Cat.	Freq. per year (*), (**)	Mean time between failure (year)
F4	**> 1**	**0 - 1**
F3	**0.3 - 1**	**1 - 3**
F2	**0.1 - 0.3**	**3 - 10**
F1	**<0.1**	**Long**

(*) Berdasarkan mode kegagalan
(**) Tingkat kegagalan tipikal RE OREDA (®: 1-100 * 10 ^ -6 untuk peralatan berputar (0,01-1 1 / tahun)

2.10 *Consequence Rating*

Penentuan *consequence rating* ini harus dilakukan oleh personel yang memiliki pengalaman terhadap penilaian kekritisan dan bekerjasama dengan personel yang berpengalaman dalam bidang operasi dan pemeliharaan dengan pemahaman yang baik terhadap suatu proses dan sistem. Kekritisan dinilai berdasarkan kesalahan dan pada waktu dari kejadian (kesalahan / kesalahan) sampai efek terjadi pada instalasi - dan dikuantifikasi dengan 1, 2 dan 3 untuk bidang-bidang berikut[6]:

1. *Health / Safety / Environment*
2. *Production*
3. *Cost*

Tabel 2. 8 Contoh penilaian kekritisan komponen berdasarkan *consequence* Norsok Z-008

[6] Norsok Standard Z-CR-008, *Common Requirements criticality classification method* (Norwegian Technology Centre, Rev. 2,1996), 5.

Kategori	Kesehatan, Keselamatan, dan Lingkungan	Produksi	Biaya
Tinggi	Potensi untuk cedera personil yang serius. Sistem keamanan kritis render tidak dapat dioperasikan. Potensi untuk kebakaran di area rahasia. Potensi pencemaran besar.	Berhenti dalam produksi / penurunan tingkat produksi yang signifikan melebihi X jam (tentukan durasi) dalam jangka waktu tertentu.	Biaya substansial - melebihi Y NOK (sebutkan batas biaya)
Menengah	Potensi untuk cedera yang membutuhkan perawatan medis. Efek terbatas pada sistem keamanan. Tidak ada potensi kebakaran di area rahasia. Potensi untuk polusi sedang.	Penghentian singkat dalam produksi / pengurangan laju produksi yang berlangsung kurang dari X jam (sebutkan durasi) dalam jangka waktu tertentu.	Biaya moderat antara Z - Y NOK (sebutkan batas biaya)
Rendah	Tidak ada potensi cedera. Tidak ada potensi kebakaran atau efek pada sistem keamanan. Tidak ada potensi polusi (sebutkan batas)	Tidak berpengaruh pada produksi dalam jangka waktu tertentu.	Biaya tidak signifikan kurang dari Z NOK (sebutkan batas biaya)

2.11 Matriks Risiko

Matriks risiko adalah sarana menggabungkan peringkat kualitatif atau semi kuantitatif dari *probability* dan *consequence* untuk menghasilkan tingkat risiko.[7] Indeks risiko adalah ukuran risiko semi-kuantitatif yang merupakan perkiraan yang diturunkan menggunakan pendekatan *scoring*. Indeks risiko dapat digunakan untuk menilai serangkaian risiko menggunakan kriteria serupa sehingga dapat dibandingkan.

[7] International Standard IEC/FDIS 31010, Risk management - Risk assessment techniques, 82.

Secara statistikal, risiko merupakan kombinasi dari *probability* dan *consequence*. *probability* adalah peluang terjadinya suatu kegagalan dalam periode waktu tertentu. *Consequence* adalah akibat yang ditimbulkan oleh kegagalan yang biasanya dinyatakan sebagai kerugian dari suatu resiko. Oleh karena itu, perhitungan resiko dilakukan dengan mengalikan nilai *Probability* dengan *consequence*.

Risks = Likelihood x Consequence

Contoh matriks risiko ditunjukkan pada **Tabel 2.10** untuk digunakan dalam klasifikasi konsekuensi, perencanaan pemeliharaan, perencanaan inspeksi dan untuk memprioritaskan pekerjaan. Matriks risiko yang digunakan untuk tujuan perawatan harus diselaraskan dengan matriks risiko yang digunakan untuk mengevaluasi risiko di area lain dalam suatu perusahaan. **Tabel 2.10** menggunakan tiga klasifikasi untuk konsekuensi, dan empat klasifikasi untuk probabilitas dan empat klasifikasi untuk risiko. Namun, suatu perusahaan bebas memilih jumlah kelas, dan tidak perlu menggunakan jumlah kelas yang sama untuk konsekuensi seperti untuk probabilitas. Juga harus disebutkan bahwa seringkali skala risiko (rendah, sedang, tinggi) atau skema warna (merah, kuning, hijau) secara implisit memperkenalkan kriteria penerimaan risiko, sehingga harus dipilih secara hati-hati.

Tabel 2. 9 Contoh Matriks Risiko dari Norsok Z-008

Cat	**Freq/year (*), (**)**	**MTBF (year)**	**Risk**		
F4	**> 1**	**0 - 1**	M	H	H
F3	**0.3 - 1**	**1 - 3**	M	M	H
F2	**0.1 - 0.3**	**3 - 10**	L	M	H
F1	**<0.1**	**Long**	L	L	M
			Loss of Function Leading to:		
Kategori Konsekuensi			**C1**	**C2**	**C3**
Konsekuensi keselamatan			Tidak ada potensi cedera. Tidak ada efek pada sistem keamanan.	Potensi untuk cedera yang membutuhkan perawatan medis. Efek terbatas pada sistem keamanan	Potensi untuk cedera pribadi yang serius. Sistem keamanan kritis render tidak dapat dioperasikan

Cat	Freq/year (*), (**)	MTBF (year)	Risk		
F4	> 1	0 - 1	M	H	H
F3	0.3 - 1	1 - 3	M	M	H
F2	0.1 - 0.3	3 - 10	L	M	H
F1	<0.1	Long	L	L	M
			Loss of Function Leading to:		
Kategori Konsekuensi			**C1**	**C2**	**C3**
Konsekuensi kontainment (penahan)			Media yang tidak mudah terbakar Media tidak beracun Media tekanan / suhu alami / normal	Media mudah terbakar di bawah flashpoint Media yang cukup beracun Media tekanan / suhu tinggi (> 100 bar / 80 ° C)	Media yang mudah terbakar di atas flashpoint Media yang sangat beracun Media tekanan / suhu yang sangat tinggi
Konsekuensi, Lingkungan; waktu pengembalian (***)			Tidak ada potensi polusi (sebutkan batas) <1 bulan	Potensi untuk moderat polusi. 1 bulan - 1 tahun	Potensi untuk besar polusi. > 1 tahun
Konsekuensi produksi			Tidak ada kerugian produksi	Efek yang tertunda pada produksi (tidak berpengaruh dalam x hari) atau mengurangi produksi	Hilangnya produksi secara langsung dan signifikan
Konsekuensi lainnya			Tidak ada konsekuensi operasional atau biaya	Konsekuensi operasional atau biaya sedang	Konsekuensi operasional atau biaya yang signifikan

(*) Berdasarkan mode kegagalan
(**) Tingkat kegagalan tipikal RE OREDA (®: 1-100 * 10 ^ -6 untuk peralatan berputar (0,01-1 1 / tahun)
(***) Konsekuensi terhadap lingkungan eksternal berbeda secara signifikan tergantung pada komposisi kimia dari substansi yang dilepaskan, volume dan penerima (laut terbuka, pantai, bumi atau atmosfer). Di sini waktu restitusi digunakan sebagai common denominator.

2.12 *Strategi Perawatan*

Tindakan pemeliharaan dapat berupa pemeliharaan terencana dan pemeliharaan tidak terencana. Namun, ada tindakan pemeliharaan yang perlu dilakukan segera jika terjadi insiden serius di mana jika tidak dilakukan tindakan pemeliharaan akan menimbulkan konsekuensi serius seperti penghambatan proses produksi, kerusakan peralatan, dan alasan keselamatan yang disebut pemeliharaan darurat (Corder, 1996)

2.13 *Preventive Maintenance Strategy*

Preventive maintenance, digunakan untuk mencegah potensi kegagalan peralatan dan kerusakan yang signifikan. Selain itu, cara pendekatan yang diterapkan selalu berdasarkan waktu.

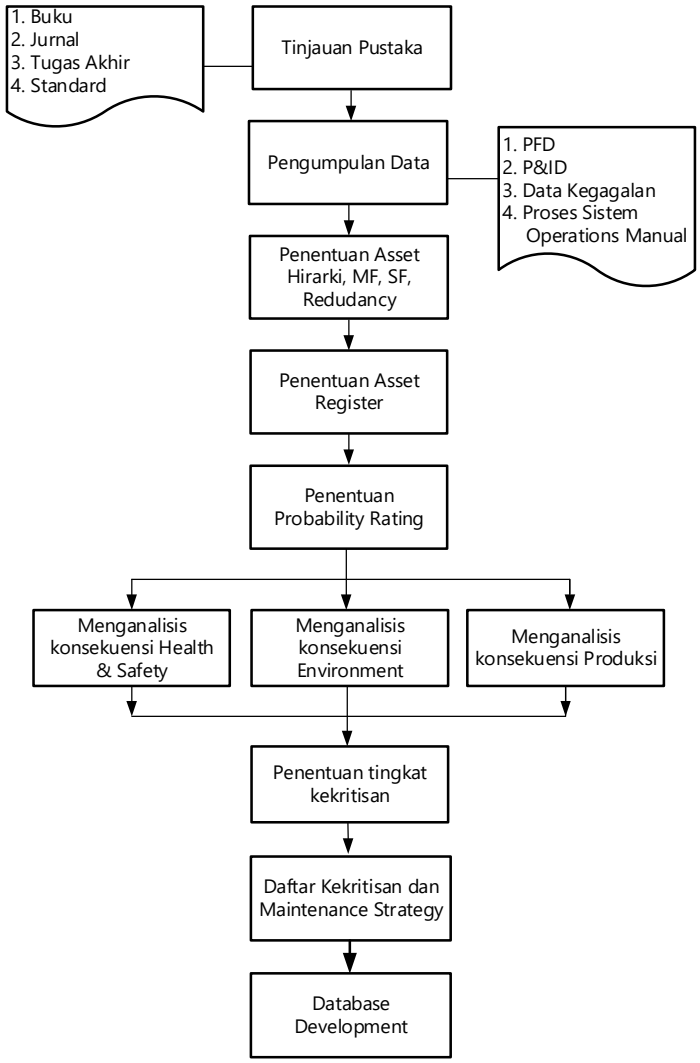
2.14 Corrective Maintenance Strategy

Pemeliharaan Korektif, yang juga dikenal sebagai "Run to Failure Management" atau "Reactive Maintenance" atau pemeliharaan reaktif dapat disebut sebagai strategi perawatan yang paling sederhana. Dalam strategi ini, cukup menunggu untuk melakukan tindakan pemeliharaan sampai mesin atau peralatan itu gagal. Menurut Mobley (2002) Corrective Maintenace hanya dapat dilakukan pada peralatan yang tidak kritis dan tidak memiliki konsekuensi penting jika terjadi kegagalan.

"Halaman ini sengaja dikosongkan"

BAB III
METODOLOGI PENELITIAN

Pada tugas akhir ini permasalahan yang akan dibahas adalah Implementasi Norsok Z-008 untuk *Equiment Criticality Analysis* (ECA) Pada *Gas Central Processing Plant*. Adapun kegiatan yang akan dilakukan dalam rangka menyelesaikan tugas akhir ini ditunjukkan oleh diagram alir pada **Gambar 3,1** dengan uraian sebagai berikut.



Gambar 3. 1 Flow chart pengerjaan tugas akhir

3.1 Tinjauan Pustaka

Tinjauan Pustaka atau studi literatur adalah tahap mempelajari tentang teori-teori yang menjadi dasar pembahasan pada penulisan tugas akhir ini. Teori-teori tersebut selanjutnya akan digunakan untuk menganalisa data. Dari tinjauan pustaka ini diharapkan akan membantu dan mempermudah dalam proses menganalisa data. Tinjauan pustaka ini didapatkan dari berbagai sumber referensi yang dapat berupa buku, modul ajar, paper, jurnal, tugas akhir dan sebagainya yang dapat digunakan untuk mendukung proses analisa data tugas akhir ini berdasarkan sumber yang kredibel dan dapat dipercaya.

3.2 Pengumpulan Data

Pengumpulan data merupakan salah satu langkah penting dalam melakukan penelitian ini. Data-data ini yang selanjutnya menjadi objek dari penelitian.
Data dibagi menjadi dua kategori yaitu[8]

- Data primer ialah data yang berasal dari sumber asli atau pertama. Data ini tidak tersedia dalam bentuk terkompilasi ataupun dalam bentuk file-file. Data ini harus dicari melalui narasumber atau dalam istilah teknisnya responden, yaitu orang yang kita jadikan objek penelitian atau orang yang kita jadikan sebagai sarana mendapatkan informasi ataupun data.
- Data sekunder adalah data yang mengacu pada informasi yang dikumpulkan dari sumber yang telah ada. Sumber data sekunder adalah catatan atau dokumentasi perusahaan, publikasi pemerintah, analisis industri oleh media, situs Web, internet dan seterusnya.
  Data dan dokumen teknis dalam melakukan analisis kekritisan komponen berupa:
  - Diskripsi teknis dari sistem-sistem yang ada pada plant seperti:
    - Diskripsi dari sistem dan plant secara detail
    - Data kegagalan komponen
    - Diskripsi dari komponen
  - Diagram/gambar teknis yang berisi informasi seperti:
    - P&ID
    - Flow Diagrams

3.3 Penentukan Hirarki, Main Function, Sub Function, dan *Redudancy*

Tujuan dari penentuan hirarki sistem ini adalah untuk menentukan area ruang lingkup dari sistem yang akan dilakukan *Equipment Criticality Analysis* (ECA), dalam tahap ini sistem akan dibagi ke dalam *main function*, *sub function* hingga sampai ke pada tingkat yang paling kecil, dalam tugas akhir ini yaitu komponen. Penentuan hirarki ini juga digunakan untuk melakukan pendataan komponen (*Asset Register*).

---

[8] Sekaran, Uma. (2011). Research Methods for business Edisi I and 2. Jakarta: Salemba Empat

Berikut langkah-langkah dalam menentukan hirarki, *main function*, *sub function*, dan *redudancy*:

1. Menentukan hirarki

   Dalam penentuan level hirarki aset ini memakai referensi dari salah satu standard yang tersedia yaitu ISO 14224:2016. Di dalam ISO 14224:2016, membagi level hirarki dan memberikan pedoman pengklasifikasian dari masing-masing level hirarki sebagai berikut.

   - Tingkatl 1 – *Industry*
     Contoh: Petroleum, natural gas, petrochemical, dll
   - Level 2 – *Bussiness Category*
     Contoh: Upstream, midstream, downstream dll
   - Level 3 – *Installation Category*
     Contoh: Oil/gas production, transportation, drilling, dll
   - Level 4 – *Plant/Unit Category*
     Contoh: Platform, Semi submersible, hydroracker dll
   - Level 5 – *Section/System*
     Contoh: Compression, Natural Gas, liquefaction dll
   - Level 6 – *Equipment Class/Unit*
     Contoh: Heat Exchangers, Compressors, Pumps, Gas Turbines dll
   - Level 7 – *Subunit*
     Contoh: Lubrication Subunit, Cooling Subunit, Control and monitoring, dll
   - Level 8 – *Component*
     Contoh: Cooler, Coupling, Gearbox, Lubrication Oil dll
   - Level 9 – Part
     Contoh: Seal, Tube, Shell, Impeller

2. Menentukan *main function*

   Penentuan *main function* dimulai pada level *equipment*. Setelah *equipment* pada seluruh objek dalam hal ini adalah gas plant ditentukan, maka selanjutnya adalah menentukan *main function* dari *equipment* tersebut. Contoh sebagai berikut

   - Compressor memiliki *main function Compressing*
   - Pompa memiliki *main function Pumping*
   - Glycol Regeneration memiliki *main function Regenerating*

3. Menentukan *main function redudancy*

   Penentuan *redudancy* didasarkan pada *equipment* yang memiliki dua atau lebih *equipment* yang sama dan fungsi yang sama dipasang secara paralel dengan tujuan untuk menghindari hilangnya fungsi sistem.

4. Menentukan *sub function*

   Penentuan *sub function* dimulai pada level komponen. Setelah Komponen dari masing-masing lingkup *equipment* pada seluruh objek

dalam hal ini adalah gas plant ditentukan, maka selanjutnya adalah menentukan *sub function* dari komponen tersebut. Dalam hal ini penentuan *subfunction* memakai hirarki dari ISO 14224:2016 Contoh *sub function* dari beberapa komponen sebagai berikut:

a) Pressure Transmitter memiliki *sub function Control & Monitoring*
b) Ball Valve memiliki *sub function Valve*

5. Menentukan *sub function redudancy*

   Penentuan *redudancy* didasarkan pada komponen yang memiliki dua atau lebih komponen yang sama dan fungsi yang sama dirangkai secara paralel dengan tujuan untuk menghindari hilangnya fungsi system.

3.4 Melakukan *Asset Register*

Asset Register adalah melakukan pendataan pada setiap komponen yang ada pada objek analisa sesuai dengan ruang lingkupnya pada tahap penentuan hirarki untuk seterusnya akan dianalisa untuk ditentukan nilai kekritisannya. Pendataan aset dilakukan dengan memberikan *tagging* atau kode pada setiap komponen sehingga masing-masing komponen memiliki *tagging* yang berbeda dan unik antara satu dengan yang lainnya. Dalam penelitian ini komponen yang dianalisa dibatasi pada komponen yang berupa *Mechanical* (*Rotary, Static,* and *Piping*) dan *Instrument*. Berikut adalah contoh pemberian *tagging* pada *equipment*.

X-YYY-Z

Dimana,

1. XX = Section/System Numbe
2. YY = Equipment class/unit number
3. ZZ = Subunit/subfunction number
4. EE = Component

3.5 Penentuan *Probability Rating*

Laju kegagalan (*probability rating*) dari suatu komponen diidentifikasi dan ditentukan dengan mengetahui bagaimana suatu aset tersebut mengalami kegagalan. Sebelum menentukan laju kegagalan, maka sebeblumnya adalah menentukan skenario suatu komponen mengalami kegagalan yang kredibel. Kemudian setelah ditentukam, Laju kegagalan ini didapatkan berdasakan pada data historis perusahaan dan pada Bank data OREDA Handbook 2002. Setelah nilai didapatkan maka selanjutnya disesuaikan dengan klasifikasi sesuai dengan risk matriks yang ada. Dalam hal ini yang dipakai adalah risk matriks 5x5 milik perusahaan. Pada risk matriks perusahaan telah dikategorikan kedalam 5 kategori sesuai dengan tingkat kekritisannya. Dalam hal ini laju kegagalan diubah ke dalam bentuk MTBF (Mean Time Between Failure).

Langkah dalam menentukan

1. Menentukan Komponen yang akan ditentukan nilai probabilitynya
2. Menentukan Failure Mode pada komponen tersebut

3. Menentukan Failure Rate dari Failure Mode yang telah ditentukan
4. Menentukan mean dari Failure Rate yang ditentukan
5. Menghitung nilai MTBF dari Failure Rate dengan rumus

$$\mathbf{MTBF} = \frac{\mathbf{1}}{\boldsymbol{\lambda}}$$

Dimana:
1. **MTBF** : Mean Time To Failure
2. $\boldsymbol{\lambda}$: Failure Rate

Contoh perhitungan seperti berikut:

Tabel 3. 1 pemilihan *failure modes* untuk laju kegagalan from OREDA[9]

Failure mode	Mean Failure Rate (10^6)
External leakage-Process medium	1.72
External leakage-Utility medium	1.72
Insufficient heat transfer	0.85
internal leakage	0.85
plugged/choked	1.72
total	6.86

$FR_{tube} = \frac{meanfailurerate}{10^6}$x8760 *hours*
FR_{tube} = 0.06 *peryear*

Oleh karena itu MTBF dapat ditentukan dengan perhitungan:
$MTBF = \frac{1}{FR_{tube}}$
MTBF = 16.64 tahun

3.6 Melakukan Analisis Konsekuensi

Masing-masing komponen yang telah diklasifikasikan berdasarkan hirarki dan ditentukan laju kegagalannya, kemudian dilakukan analisis resiko yang ditimbulkan akibat hilangnya fungsi suatu aset berdasarkan skenario kegagalan yang kredibel. Dalam hal ini analisis konsekuensi dikategorikan menjadi:

[9] Dwi Priyanta et al, *Comparative Analysis of Probability of Failure Determination Using Weibull Distribution and Generic Failure Frequencies on Heat ExchangerTube Bundles Based on API 581*, (IJMEIR, Vol 2(3) 2018), 211.

- Keselamatan (*Personel injury*)
- Produksi (*Gas leak*)
- Lingkungan (*Environment*)

3.7 Penentuan Kekritisan Komponen

Untuk memperoleh nilai kekritisan pada komponen maka dapat dilakukan dengan cara mengkonversi nilai dari *probability rating* terhadap nilai *consequence rating* yang telah ditetapkan, dengan menggunakan matriks risiko yang ada. Dalam hal ini matriks risiko yang digunakan adalah matriks risiko perusahaan sesuai pada **Gambar 3. 3**

MATRIKS RISIKO		PROBABILITY RATING				
		1	**2**	**3**	**4**	**5**
CONSEQUENCE RATING	**1**	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Gambar 3. 2 Matriks Risiko Perusahaan
(Sumber: Perusahaan)

Selanjutnya adalah mengkonversi tingkat risiko dari matriks risiko tersebut dengan tingkat kekritisan komponen. Dalam norsok Z-008 memberikan pedoman bahwa tingkat kekritisan komponen dikategorikan menjadi 3 kategori yaitu H (tinggi), M (menengah), L (rendah). **Tabel 3.2** menunjukkan konversi rating risiko menjadi rating kekritisan komponen.

Tabel 3. 2 konversi rating risiko ke rating kekritisan komponen

Indeks Risiko	Rating Risiko	Indeks Kekritisan	Rating Kekritisan
1-5	Low	L	Rendah
5-9	Medium	M	Menengah
10-14	Medium High	H	Tinggi
15-25	High		

Setelah rating kekeritisan komponen ditentukan maka selanjutnya adalah mengkonversi matriks risiko perusahaan menjadi matriks kekritisan yang akan digunakan untuk analisa. **Gambar 3. 4** menunjukkan matriks kekritisan yang akan digunakan untuk analisa kekritisan komponen.

MATRIKS KEKRITISAN		PROBABILITY				
		1	**2**	**3**	**4**	**5**
CONSEQUENCE	**1**	L	L	L	L	L
	2	L	L	M	M	H
	3	L	M	M	H	H
	4	L	M	H	H	H
	5	M	H	H	H	H

Gambar 3. 3 Matriks kekritisan komponen

Setelah nilai dari *probability* rating dan *consequence* rating ditentukan, maka selanjutnya adalah mengkonversi nilai tersebut dengan menggunakan matriks kekritisan komponen

Contoh
Komponen memiliki rating sebagai berikut:
Consequence rating : 3
Probability rating : 4
Maka pada matriks kekritisan, komponen tersebut masuk kedalam kategori H (tinggi)

3.8 . Strategi Perawatan

Dalam menentukan strategi perawatan, setiap komponen yang memiliki tingkat kekritisan H dan M, akan dilakukan *Preventive maintenance*. Sedangkan untuk tingkat kekritisan L, akan dilakukan *Corrective Maintenance*

3.9 . Database *Development*

Kemudian membuat daftar kekritisan komponen dalam bentuk database yang berisi seluruh komponen beserta tingkat kekritisannya tinggi, menengah, rendah

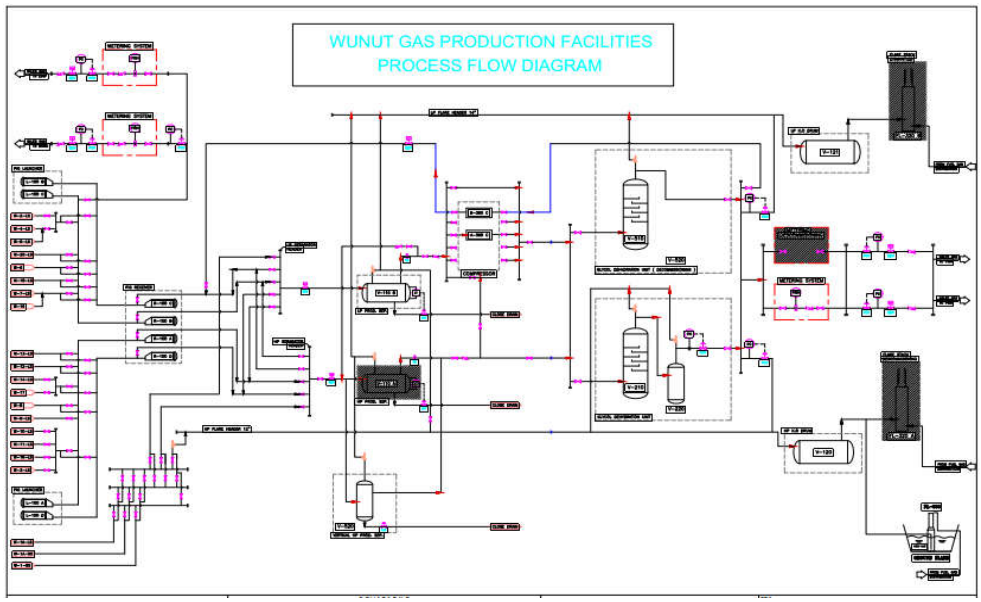
BAB IV
PEMBAHASAN

4.1 Diskripsi Proses Produksi Gas Alam pada Gas Plant

Proses produksi gas alam yang ada pada gas central processing plant. melalui beberapa proses. **Gambar 4.1** merupakan flow chart dari proses produksi gas alam yang ada pada gas central processing plant.

Gambar 4. 1. Flowchart proses produksi gas alam

Secara umum proses produksi gas yang ada pada plant wunut gas central processing plant, dimulai dari sumur gas kemudian di salurkan oleh pipeline menuju ke manifold. Dari manifold gas akan disalurkan menuju ke separator untuk dipisahkan dari minyak dan kotoran yang masih bercampur dengan gas. Setelah dari separator, gas akan dialirkan menuju kompressor untuk dinaikkan tekanannya. Setelah dari kompressor gas akan dialirkan menuju dehidration unit untuk dipisahkan antara gas dan uap air. Gas yang telah terpisah dengan uap air akan dialirkan ke metering unit untuk dilakukan pengukuran dan dilanjutkan menuju pipa distribusi konsumen.



Gambar 4. 2. Gambar Proses Flow Diagram (PFD) dari Gas Central Processing Plant (Sumber: perusahaan)

4.2 Data PFD dan P&ID Plant

Data yang akan digunakan dalam penentuan aset hirarki, *main function, sub function, redudancy*, *asset register* dan analisa ECA salah satunya adalah PFD dan P&ID. Berikut merupakan beberapa data PFD dan P&ID yang akan digunakan dalam tugas akhir ini.

- **PFD**
  - 721-WUN-20-03-000 PFD WUNUT GAS PRODUCTION FACILITIES
  - 721-WUN-20-03-001 PFD INLET HEADER & SEPARATOR

- **P&ID**
  - 721-WUN-20-05-001 P&ID LP HEADER & LP SEPARATOR
  - 721-WUN-23-05-002 P&ID HEADER COMPRESSOR (C-390)
  - 721-WUN-25-05-004 P&ID CUSTODY FLOW METER
  - 721-WUN-27-05-003 P&ID GLYCOL DEHYDRATION UNITS
  - 721-WUN-60-05-006 P&ID FUEL GAS FILTER
  - 721-WUN-PI-109 P&ID HP SEPARATOR (V-110A)
  - 721-WUN-PI-110A P&ID DEHYDRATION UNIT
  - 721-WUN-PI-110B P&ID DEHYDRATION UNIT
  - 721-WUN-PI-110C P&ID DEHYDRATION UNIT
  - 721-WUN-PI-111 P&ID FUEL GAS SYSTEM
  - 721-WUN-PI-114 P&ID KO DRUM (V-120)
  - 721-WUN-PI-117 P&ID OPEN DRAIN, CLOSE DRAIN & EVAPORATION
  - 721-WUN-PI-118 P&ID FLARE STACK (FL-320A)
  - 721-WUN-PI-122 P&ID INSTRUMENT AIR COMPRESSOR
  - 733-TWE1-22-05-001 P&ID LAUNCHER/RECEIVER LP EAST TRUNKLINE
  - 733-TWE2-22-05-001 P&ID LAUNCHER/RECEIVER HP EAST TRUNKLINE
  - 733-TWW1-22-05-001 P&ID LAUNCHER/RECEIVER HP WEST TRUNKLINE
  - 733-TWW2-22-05-001 P&ID LAUNCHER/RECEIVER LP WEST TRUNKLINE

4.3 Asset Hirarki, *Main Function* dan *Redudancy*

Suatu aset dikategorikan sesuai dengan tingkatan hirarkinya. Pengklasifikasian asset diatur dari tingkatan tertinggi hingga tingkatan terendah. Berikut tingkatan hirarki dari tingkatan 1 sampai 8 pada Gas Plant sesuai dengan standard ISO 14224:2016.

- Tingkat 1 – Indusry
- Tingkat 2 – Bussiness Category
- Tingkat 3 – Installation Category
- Tingkat 4 – Plant/Unit Category
- Tingkat 5 – Section/System
- Tingkat 6 – Equipment Class/Unit
- Tingkat 7 – Subunit
- Tingkat 8 – Component

Tabel 4.1 Berikut ini menunjukkan aset hirarki Gas Plant mulai dari tingkatan 1 (Industry) sampai dengan tingkatan 2 (Bussiness Category)

Tabel 4. 1 Hirarki tingkatan 1-2

ID LEVEL 1	INDUSTRY	ID LEVEL 2	BUSSINESS CATEGORY
NGS	NATURAL GAS	MID	MIDSTREAM

Tabel 4.2 Berikut ini menunjukkan Hirarki Wunut Plant mulai dari Level 1 (Industry) sampai dengan Level 5 (Section System)

Tabel 4. 2 Hirarki tingkatan 3 – 5

ID LEVEL 3	INSTALLATION CATEGORY	ID LEVEL 4	PLANT/UNIT	ID LEVEL 5	SECTION/ SYSTEM
OGP	OIL AND GAS PRODUCTION	WNT	ONSHORE PRODUCTION PLANT	01	SEPARATION SYSTEM
				02	DEHYDRATION SYSTEM
				03	COMPRESSION SYSTEM
				04	GAS EXPORT SYSTEM
				05	FUEL GAS SYSTEM
				06	INSTRUMENT AIR SYSTEM
				07	FLARE SYSTEM
				08	PIG LAUNCHER AND RECEIVER
				09	OPEN DRAIN SYSTEM

Tabel 4.3 berikut ini menunjukkan daftar *equipment* (level 6 aset hirarki), *main function* dan *redudancy* dari masing-masing *equipment* yang terdapat pada Gas Plant.

Tabel 4. 3 Daftar Equipment (Tingkatan 6), MF dan Redudancy

No	TAG	EQUIPMENT NAME	TYPE	MAIN FUNCTION	RED
1	V-110B	LP SEPARATOR	STATIC	SEPARATING	A
2	V-210	GLYCOL CONTACTOR	STATIC	REGENERATING	A
3	V-220	GLYCOL SCRUBBER	STATIC	SCRUBBING	A
4	E-230	LEAN GLYCOL COOLER	STATIC	COOLING	A
5	P-240A	GLYCOL PUMP A	STATIC	ABSORBING	B
6	P-240B	GLYCOL PUMP B	STATIC	ABSORBING	B
7	G-250	GLYCOL REGENERATOR	ROTARY	REGENERATING	A
8	E-570	GLYCOL EXCHANGER	STATIC	EXCHANGING	A
9	V-280	GLYCOL FLASH SEPARATOR	STATIC	SEPARATING	A
10	F-290	CHARCOAL FILTER	STATIC	FILTERING	A
11	V-260	GLYCOL SURGE DRUM	STATIC	STORING	A
12	F-290A	CATRIDGE FILTER	STATIC	FILTERING	A
13	C-390	GAS COMPRESSOR	ROTARY	COMPRESSING	A
14	FM-102	CUSTODY FLOW METER	INSTRUMENT	STORING	A
15	F-301	FUEL GAS SCRUBBER	STATIC	SCRUBBING	A
16	V-230	DRIP FUEL GAS	STATIC	STORING	A
17	F-302	FUEL GAS FILTER	STATIC	FILTERING	A
18	C-310B	AIR COMPRESSOR	ROTARY	COMPRESSING	A
19	V-310	AIR RECEIVER	STATIC	RECEIVING	A
20	F-PRF-01	PREFILTER A	STATIC	FILTERING	A
21	F-PRF-02	PREFILTER B	STATIC	FILTERING	A
22	V-120	KNOCK OUT DRUM	STATIC	RECEIVING	A

No	TAG	EQUIPMENT NAME	TYPE	MAIN FUNCTION	RED
23	P-160A	KNOCK OUT DRUM PUMP	ROTARY	PUMPING	A
24	FL-330	GROUND FLARE	STATIC	STORING	A
25	L-090A	PIG LAUNCHER A	STATIC	STORING	C
26	L-090B	PIG LAUNCHER B	STATIC	STORING	C
27	L-090C	PIG LAUNCHER C	STATIC	STORING	C
28	L-090D	PIG LAUNCHER D	STATIC	STORING	C
29	R-100A	PIG LAUNCHER A	STATIC	STORING	C
30	R-100B	PIG LAUNCHER B	STATIC	STORING	C
31	R-100C	PIG LAUNCHER C	STATIC	STORING	C
32	R-100D	PIG LAUNCHER D	STATIC	STORING	C
33	T-360	CLOSE DRAIN TANK	STATIC	RECEIVING	A

4.4 Sub Function dan *Redudancy*

Penentuan sub function dilakukan untuk pengklasifikasian fungsi komponen secara umum yang mendukung fungsi utama (*main function*) pada equipment. Penentuan *sub function* ini akan diklasifikasikan secara garis besar menjadi seperti berikut:

- *Main task*
- *Pressure relief.*
- *Shutdown*, proses.
- *Shutdown*, peralatan.
- *Controlling*.
- *Monitoring*.
- *Local Indication*.
- *Manual shutdown*.
- *Other function.*

Tabel 4.4 berikut ini menunjukkan contoh daftar *equipment* (level 7 aset hirarki), *sub function* dan *redudancy* dari masing-masing *equipment* yang terdapat pada gas central processing plant.

Tabel 4. 4 Daftar SF (Tingkatan 7) dan Redudancy

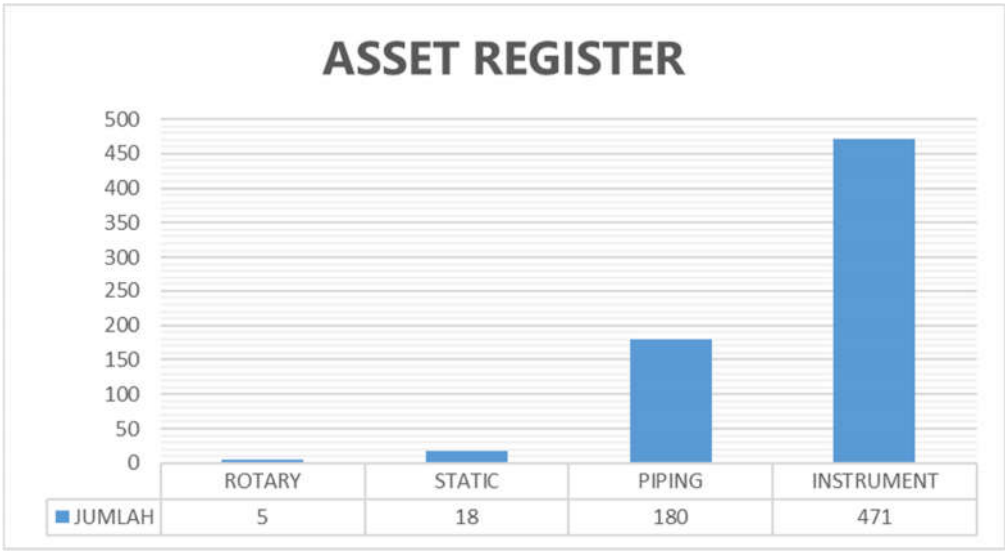
TAG	EQUIPMENT NAME	SUBUNIT/SUBFUNCTION	RED
V-110B	LP SEPARATOR	CONTAINMENT V-110B	A

TAG	EQUIPMENT NAME	SUBUNIT/SUBFUNCTION	RED
		CONTROLLING V-110B	A
		LOCAL INDICATION V-110B	A
		MONITORING V-110B	A
		MANUAL SHUTDOWN V-110B	A
		MAIN TASK V-110B	A
		OTHER FUNCTION V-110B	A
		PRESSURE RELIEF V-110B	A
		SHUTDOWN PROCESS V-110B	A
V-120	GLYCOL CONTACTOR	CONTAINMENT V-210	A
		CONTROLLING V-210	A
		LOCAL INDICATION V-210	A
		MONITORING V-210	A
		MANUAL SHUTDOWN V-210	A
		MAIN TASK V-210	A
		OTHER FUNCTION V-210	A
		PRESSURE RELIEF V-210	A
V-220	GLYCOL SCRUBBER	CONTAINMENT V-220	A
		CONTROLLING V-220	A
		LOCAL INDICATION V-220	A
		MONITORING V-220	A
		MANUAL SHUTDOWN V-220	A
		MAIN TASK V-220	A
		OTHER FUNCTION V-220	A
E-230	LEAN GLYCOL COOLER	CONTAINMENT E-230	A
		CONTROLLING E-230	A
		LOCAL INDICATION E-230	A
		MANUAL SHUTDOWN E-230	A
		MAIN TASK E-230	A
		OTHER FUNCTION E-230	A
		PRESSURE RELIEF E-230	A
P-240 A	GLYCOL ABSORBER A	CONTAINMENT P-240A	A
		LOCAL INDICATION P-240A	A
		MANUAL SHUTDOWN P-240A	A
		MAIN TASK P-240A	A
		OTHER FUNCTION P-240A	A
		PRESSURE RELIEF P-240A	A

TAG	EQUIPMENT NAME	SUBUNIT/SUBFUNCTION	RED
P-240 B	GLYCOL ABSORBER B	CONTAINMENT P-240B	A
		MANUAL SHUTDOWN P-240B	A
		MAIN TASK P-240B	A
		OTHER FUNCTION P-240B	A
		PRESSURE RELIEF P-240B	A
G-250	GLYCOL REGENERATOR	CONTAINMENT G-250	A
		CONTROLLING G-250	A
		LOCAL INDICATION G-250	A
		MONITORING G-250	A
		MANUAL SHUTDOWN G-250	A
		MAIN TASK G-250	A
		OTHER FUNCTION G-250	A
E-570	GLYCOL EXCHANGER	CONTAINMENT E-570	A
		CONTROLLING E-570	A
		LOCAL INDICATION E-570	A
		MONITORING E-570	A
		MANUAL SHUTDOWN E-570	A
		MAIN TASK E-570	A
V-280	GLYCOL FLASH SEPARATOR	CONTAINMENT V-280	A
		CONTROLLING V-280	A
		LOCAL INDICATION V-280	A
		MONITORING V-280	A
		MANUAL SHUTDOWN V-280	A
		MAIN TASK V-280	A
		OTHER FUNCTION V-280	A
		PRESSURE RELIEF V-280	A

4.5 Asset Register

Pendataan aset pada gas central processing plant dilakukan untuk mengetahui jumlah asset yang akan dilakukan analisa. Dalam hal ini sebanyak 674 aset telah diidentifikasi yang selanjutnya terdiri dari 5 aset berupa *rotary equipment*, 18 aset berupa *static equipment*, 180 aset berupa *piping*, dan 471 aset berupa *instrument*. **Gambar 4.3** berikut menunjukkan grafik jumlah aset dari Gas Plant. Dan **Lampiran 2** menunjukkan daftar seluruh aset yang ada pada Gas Plant



Gambar 4. 3. Gambar grafik jumlah aset pada Gas Plant

4.6 Probability rating

Penentunan *Probability rating* ditentukan dengan melihat dari reliability data OREDA dengan penentuan *failure mode*. Masing-masing *failure mode* memiliki *failure rate* yang berbeda beda sehingga nilai MTBF didapatkan dengan mambagi angka 1 dengan jumlah dari *failure rate*. Berikut adalah contoh perhitungan MTBF pada equipment V-110B

Tabel 4. 5 Pemilihan *failure modes* untuk laju kegagalan from OREDA

Failure mode	Mean Failure Rate (10^6)
Abnormal Instrument reading	4.18
External leakage-Process medium	7.4
External leakage-Utility medium	9.75
total	21.33

FR = $\frac{meanfailurerate}{10^6}$x8760 *hours*
FR = 0.186 *peryear*

Oleh karena itu MTBF dapat ditentukan dengan perhitungan:
MTBF = $\frac{1}{FR_{tube}}$

MTBF = 5.35 tahun

Tabel 4.6 berikut menunjukkan indeks Probability rating dengan kriteria yang didapatkan pada matriks risiko perusahaan.

Tabel 4. 6 Probabillity Rating

No	Definition	Indeks	Criteria
1	*Improbable*	1	*Less then Once per 15 years*
2	*Unlikely Probable*	2	*Once per >10-15 years*
3	*Probable*	3	*Once per > 5-10 years*
4	*Quite Probable*	4	*Once Per >1- 5 years*
5	*Very Probable*	5	*More than Once per year*

Selanjutnya perhitungan dilakukan dengan menggunakan template yang dibuat sesuai dengan **Tabel 4.7**. **Lampiran 3** memberikan daftar keseluruhan probability rating untuk gas plant ini.

Tabel 4. 7 *Template Probability Rating*

No	EQUIPMENT TAG	COMPONENT NAME	SF	PARENT	MF	RED	PID	LIKELIHOOD				
								FAILURE MODES SELECTED	FAILURE RATE	MTTR	INDEKS	F
1	**V-110B**	**LP SEPARATOR**	EQUIPMENT	V-110B	SEPARATING	A	721-WUN-20-05-001	Abnormal instrument reading External leakage - Process medium External leakage - Utility medium Critical	0.4394	2.2758	**4**	**F4**
2	FE-110B	FLOW ELEMENT	CONTROLLING & MONITORING	V-110B	SEPARATING	A	721-WUN-20-05-001	Fail to function on demand	0.0413	24.237	**1**	**F1**
3	FIT-110B	FLOW INDICATING TRANSMITTER	CONTROLLING & MONITORING	V-110B	SEPARATING	A	721-WUN-20-05-001	Fail to function on demand	0.0413	24.237	**1**	**F1**
4	FQI-V-110B	FLOW QUANTITY INDICATOR	CONTROLLING & MONITORING	V-110B	SEPARATING	A	721-WUN-20-05-001	Fail to function on demand	0.0413	24.237	**1**	**F1**
5	FR-110B	FLOW RECORDER	CONTROLLING & MONITORING	V-110B	SEPARATING	A	721-WUN-20-05-001	Fail to function on demand	0.0413	24.237	**1**	**F1**

4.7 Analisis Konsekuensi

Penentuan konsekuensi berdasarkan pada standard NORSOK Z-008 dengan menggunakan 3 kategori yaitu HSE, Production, dan Cost dan dilakukan secara kualitatif. Dalam penelitian ini memakai matriks risiko dari perusahaan, sehingga kategori tersebut disesuaikan dengan matriks risiko perusahaan. Tabel berikut menunjukkan penyesuaian dengan matriks risiko perusahaan.

Tabel 4. 8 *Safety and Health Consequence*

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Injury Without Treatment*
2	*Low*	2	*Injury need Treatment with first aid Box*
3	*Medium*	3	*Medical Treatment Without LTA*
4	*High*	4	*Medical Treatment With LTA*
5	*Very High*	5	*Fatality*

Tabel 4. 9 *Environment Consequence*

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Have no nuisance effect at surround area*
2	*Low*	2	*Notable but limited environmental impact*
3	*Medium*	3	*Environmental impact notable lasting environmental damage (Tier 1)*
4	*High*	4	*Large scale environmental damage with national significance (Tier 2)*
5	*Very High*	5	*Severe widespread irreversible environmental damage of international significance (Tier 3)*

Tabel 4. 10 *Production Consequence*

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Gas leak (<0,5 MMSCFD)*
2	*Low*	2	*Gas leak (0,5-<1 MMSCFD)*
3	*Medium*	3	*Gas leak (1-<5 MMSCFD)*
4	*High*	4	*Gas Leak (5-10 MMSCFD)*
5	*Very High*	5	*Gas Leak (>10 MMSCFD)*

4.8 Tingkat Kekritisan Komponen

Setelah penentuan penentuan probability rating dan konsekuensi maka selanjutnya adalah memetakan kedua nilai tersebut pada Criticality Risk Matriks yang telah dimodifikasi seperti pada **Gambar 4. 4** berikut

MATRIKS KEKRITISAN		PROBABILITY				
		1	2	3	4	5
CONSEQUENCE	1	L	L	L	L	L
	2	L	L	M	M	H
	3	L	M	M	H	H
	4	L	M	H	H	H
	5	M	H	H	H	H

Gambar 4. 4. Matriks kekritisan komponen

Selanjutnya perhitungan dilakukan dengan menggunakan template yang dibuat sesuai dengan **tabel 4.11**. **Lampiran 3** memberikan daftar keseluruhan *probability rating*, *consequence rating* dan *criticality analysis* untuk gas plant ini.

Tabel 4. 11 Template Consequence rating dan Criticality Analysis

No	EQUIPMENT TAG	COMPONENT NAME	CONSEQUENCE						RISK RATING		MAINTENANCE	RBM	REMARK
			ASSESSMENT	S INDEKS	E INDEKS	P INDEKS	HIGHEST	C	INDEKS	DESKRIPSI			
1	V-110B	LP SEPARATOR	Effect: System is shutdown, gas production is flared Red: redudancy grade B S: Potential for injury due contact with hazardous gas. E: Gas production is flared 50 mmcfd due to	2		5	5	C3	H	TINGGI	PM		
2	FE-110B	FLOW ELEMENT	Red: no redudancy for fail to operate on demand S: injury without treatment E: Have no nuisance effect at surround area P: Gas leak (<0,5 MMSCFD)	1	1	1	1	C1	L	RENDAH	CM		
3	FIT-110B	FLOW INDICATING TRANSMITTER	Red: no redudancy for fail to operate on demand S: injury without treatment E: Have no nuisance effect at surround area P: Gas leak (<0,5 MMSCFD)	1	1	1	1	C1	L	RENDAH	CM		
4	FQI-V-110B	FLOW QUANTITY INDICATOR	Red: no redudancy for fail to operate on demand S: injury without treatment E: Have no nuisance effect at surround area P: Gas leak (<0,5 MMSCFD)	1	1	1	1	C1	L	RENDAH	CM		
5	FR-110B	FLOW RECORDER	Red: no redudancy for fail to operate on demand S: injury without treatment E: Have no nuisance effect at surround area P: Gas leak (<0,5 MMSCFD)	1	1	1	1	C1	L	RENDAH	CM		

4.8.1 Kekritisan Komponen pada Separating System

Separating system adalah salah satu system utama yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk memisahkan antara gas dengan fluida (minyak) dan kontaminan lainnya.

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Separating System:

- V-110 B LP Separator
- LCV-110B Level Control Valve
- PSV-110B Pressure Safety Valve
- SDV-110B Shutdown Valve

4.8.2 Kekritisan Komponen pada Dehidrating System

Dehidrating system adalah salah satu dari system utama yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk memisahkan membersihkan gas yang telah keluar dari Gas Compressor C-310 dari uap air yang masih terkandung dalam gas yang selanjutnya gas akan dibawa menuju ke Costudy Flow Meter FM-102.

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Dehidrating System:

- V-210 Glycol Contactor
- PSV-211 Pressure Safety Valve
- LCV-211 Level Control Valve
- LCV-212 Level Control Valve
- V-220 Glycol Scrubber
- FCV-501-02 Flow Control Valve
- FCV-200 Flow Control Valve
- E-230 Lean Glycol Cooler
- LCV-283 Level Control Valve

4.8.3 Kekritisan Komponen pada Compressing System

Compressing System adalah salah satu dari system utama yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk meningkatkan tekanan gas yang selanjutnya gas akan dialirkan menuju Dehidrating Unit

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Compressing System:

- C-310 Gas Compressor

4.8.4 Kekritisan Komponen pada Gas Export System

Gas Export System adalah salah satu dari system utama yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk mengukur laju gas sebelum disalurkan ke konsumen

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Gas Export System:

- SDV-102 Shut Down Valve
- SDV-200 Shut Down Valve
- PCV-101 Pressure Control Valve
- PCV-102 Pressure Control Valve

4.8.5 Kekritisan komponen pada Fuel Gas System

Fuel Gas System adalah salah satu dari Utilitas System yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk mensuplai kebutuhan

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Fuel Gas System:

- F-301 Fuel Gas Scrubber
- F-302 Fuel Gas Filter

4.8.6 Kekritisan Komponen pada Instrument Air System

Instrument Air System adalah salah satu dari Utilitas System yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk mensuplai kebutuhan udara bertekanan pada Plant

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Instrument Air System:

- C-310B Air Compressor
- V-310 Air Receiver
- PSV-311 Pressure Safety Valve

4.8.7 Kekritisan Komponen pada Flare System

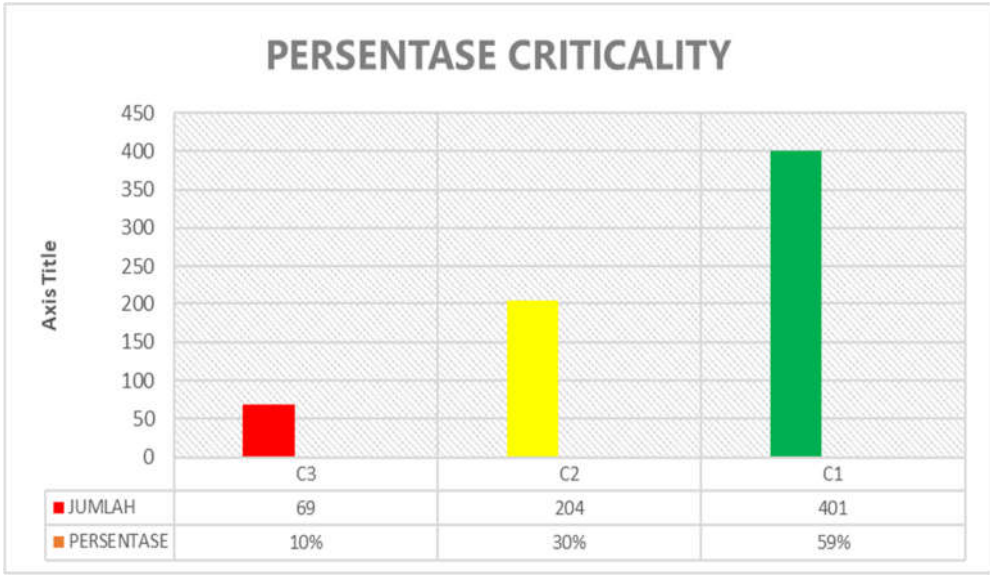
Flare System adalah salah satu dari Utilitas System yang ada pada Gas Central Processing Plant yang memiliki fungsi utama untuk membakar sisa-sisa gas hidrokarbon yang tidak dipakai

Berikut merupakan daftar kekritisan komponen tingkat Tinggi dari Flare System:

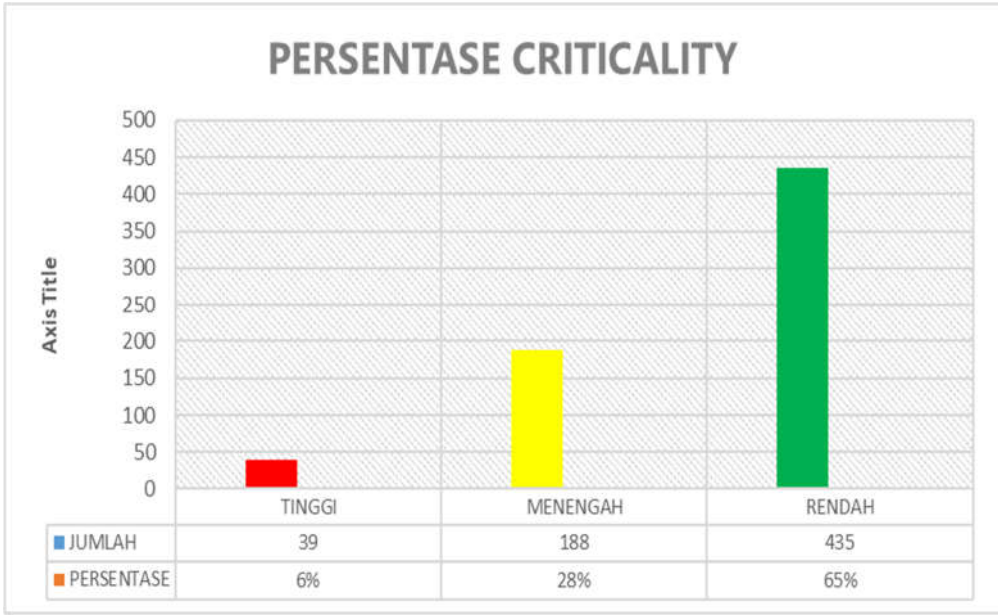
- V-120 Knock Out Drum
- FL-330 Ground Flare

Gambar grafik berikut menunjukkan tingkat kekritisan seluruh equipment dan komponen yang ada pada gas plant. Norsok Z-008 mengkategorikan kekritisan berdasarkan klasifikasi dari *consequence* kedalam tiga tingkatan C1 (rendah), C2 (menengah), C3 (tinggi). **Gambar 4.5** menunjukkan kekritisan aset berdasarkan klasifikasi dari consequence. Kemudian apabila digabungkan dengan tingkat frekuensi terjadinya kegaga;an, maka dari aset yang telah dilakukan analisa

sebanyak 4% aset memiliki tingkat kekritisan tinggi, 29% aset memilikitingkat kekritisan menengah, dan 67% aset memiliki tingkat kekeritisan rendah. Sedangkan ada beberapa aset yang belum dilakukan analisa. **Gambar 4.6** Berikut menunjukkan grafik tingkat kekritisan dari aset gas plant yang sudah dianalisa.



Gambar 4. 5. Gambar grafik kekritisan komponen berdasarkan *consequence*



Gambar 4. 6. Gambar grafik kekritisan komponen

4.9 Strategi Perawatan

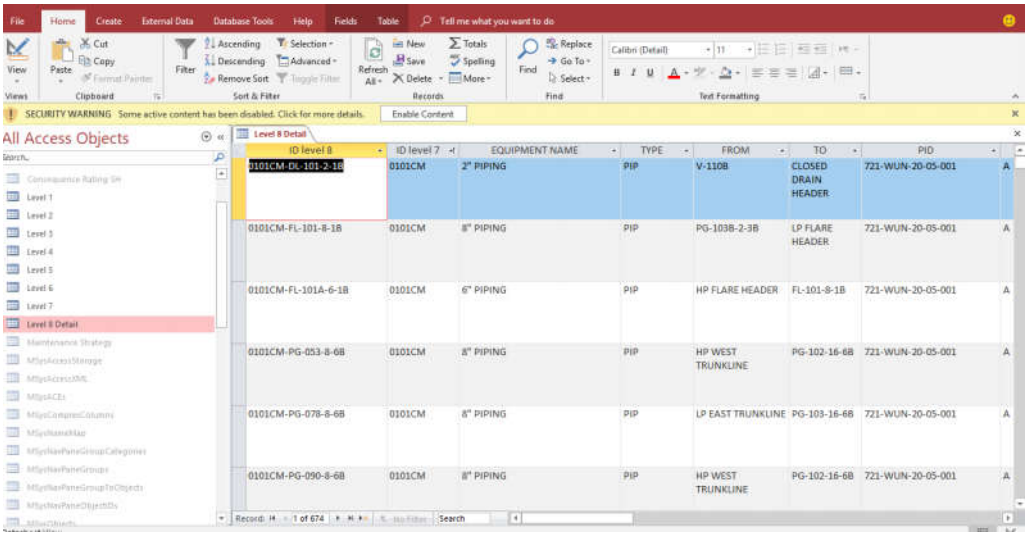
Seluruh komponen yang telah ditentukan tingkat kekritisannya akan dilakukan perawatan yang berbeda-beda. Dikarenakan pada tingkatan yang L (rendah) memiliki konsekuensi dan frekuensi kegagalan yang rendah maka perawatan yang dilakukan dapat berupa *corrective maintenance.* sedangkan tingkat M (menengah) dilakukan preventive maintenance jika sesuai, dan tingkat H (tinggi) harus dilakukan preventive maintenance karena jika peralatan risiko tingkat tinggi tidak mendapatkan pemeliharaan preventif dapat mengganggu keberlangsungan bisnis suatu perusahaan, membahayakan bagi pekerja, dan berbahaya bagi lingkungan. Tabel 4.12 berikut menunjukkan strategi perawatan pada setiap tingkat kekritisan komponen.

Tabel 4. 12 Strategi perawatan

Criticality	Maintenance
H	Preventive Maintenance
M	Preventive Maintenance
L	Corrective Maintenance

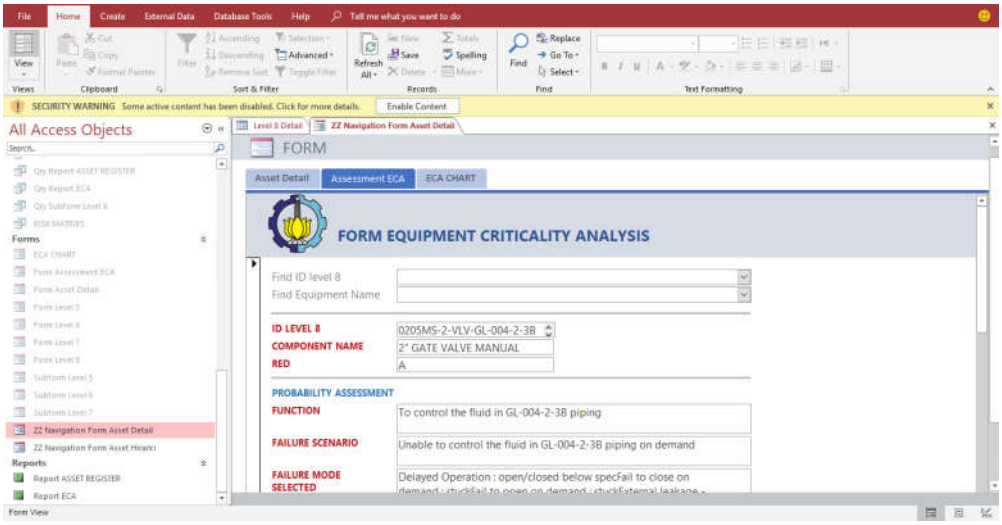
4.10 Perancangan Database

Setelah semua analisa dilakukan, selanjutnya adalah melakukan dokumentasi seluruh aset dengan membuat database. Dalam hal ini microsoft acces digunakan untuk merancang database *Equipment Criticality Analysis (ECA).* Pada perancangan database ini data yang diinput adalah daftar aset seluruh komponen dari gas central processing plant. Gambar 4.7 menunjukkan tampilan tabel dari database yang dirancang.



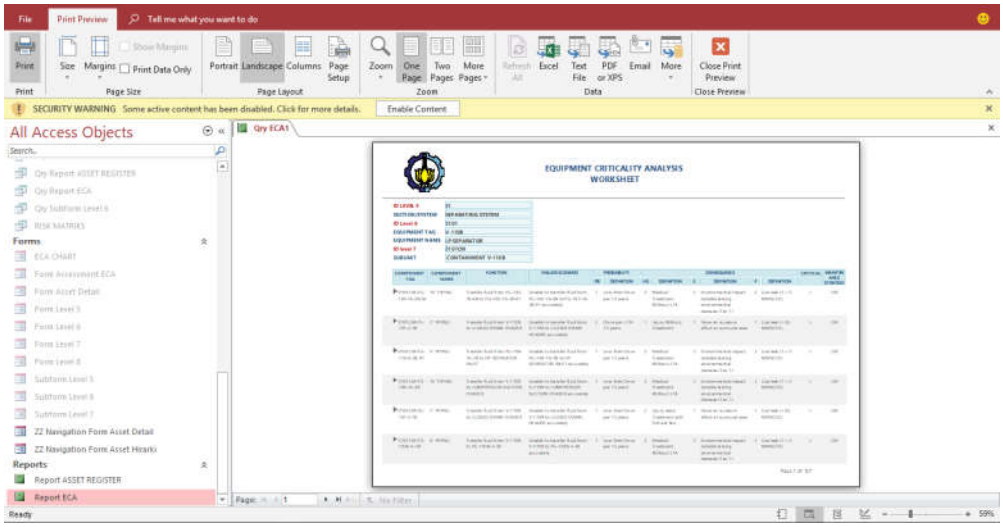
Gambar 4. 7. Tabel database

Dalam melakukan input data ke dalam tabel dapat dilakukan melalui *front-end*, atau pun *back-end.* Dalam melakukan inpur data melalui back end dapat dilakukan dengan cara menginputkan secara langsung pada tabel. Sedangkan *front-end.* Dapat dilakukan dengan menginputkan data melalui form. Dalam hal ini form dirancang untuk dapat menginput data ke dalam tabel dan melakukan analisa kekritisan terhadap komponen dengan cara melakukan scoring *probability* dan *consequence* pada form yang didesain. **Gambar 4.8** berikut menunjukkan form dari database yang dirancang.



Gambar 4. 8. Form *Equipment Criticality Analysis* database

Output dari database ini adalah berupa laporan daftar keseluruhan aset beserta tingkat hirarkinya dan daftar kekritisan komponen dari gas central processing plant. **Gambar 4.9** berikut menunjukkan tampilan laporan yang didesain untuk database ini.



Gambar 4. 9. Laporan *Equipment Criticality Analysis* database

"Halamn ini sengaja dikosongkan"

BAB V
KESIMPULAN DAN SARAN

5.2. Kesimpulan

Adapun kesimpulan yang dapat ditarik dari pembahasan di atas adalah sebagai berikut:

1. Untuk menentukan taksonomi peralatan berdasarkan kombinasi ISO 14224 dan Norsok Z-008 dibagi dengan:
   1) Industry: natural gas
   2) Bussiness Category: midstream
   3) Installation Category: Oil/gas production
   4) Plant/Unit Category: Onshore Plant
   5) Section/System: 9 system
   6) Equipment Class/Unit: 33 Equipment
   7) Subunit: 140 Subunit
   8) Component: 647 Komponen

2. Dari aset yang telah dilakukan analisa sebanyak 28 (4%) aset memiliki tingkat kekritisan tinggi (H), 192 (28%) aset memilikitingkat kekritisan menengah (M), dan 454 (67%) aset memiliki tingkat kekeritisan rendah (L).

3. Setiap level kritis memiliki strategi perawatan yang berbeda. Tingkat L (rendah) dilakukan *corrcetive maintenance*, tingkat M (menengah) dilakukan *preventive maintenance* jika sesuai, dan tingkat tinggi harus dilakukan *preventive maintenance* karena jika peralatan risiko tingkat tinggi tidak mendapatkan pemeliharaan preventif dapat mengganggu keberlangsungan bisnis suatu perusahaan, membahayakan bagi pekerja, dan berbahaya bagi lingkungan.

5.2. Saran

Adapun saran dari pembahasab di atas adalah sebagai berikut:

1. Dalam penentuan hirarki dapat dilakukan sampai ke tahap parts untuk mendapatkan data komponen yang lebih lengkap

2. Pengklasifikasian selanjutnya untuk konsekuensi dapat ditambahkan untuk kategori biaya agar hasil dapat lebih akurat

"Halamn ini sengaja dikosongkan"

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LAMPIRAN 1

GUIDELINE
EQUIPMENT CRITICALITY ANALYSIS

Rev.00

PEDOMAN
EQUIPMENT CRITICALITY ANALYSIS

DAFTAR ISI

DAFTAR SINGKATAN

ECA	Equipment Criticality Assessment
HSE	Health, Safety, and Environment
ISO	International Organization for Standardization
P&ID	Piping and Instrumentation Diagram
PFD	Process Flow Diagram

PENGERTIAN

Asset Hirarki	Pengklasifikasian asset yang diatur berdasarkan fungsinya, dari tingkatan tertinggi hingga tingkatan terendah. ISO 14224 membahas ini lebih lanjut dalam mengklasifikasikan suatu asset dari tingkatan tertinggi sampai ke yang terendah
Criticality Ranking	hasil dari melakukan penilaian kekritisan asset berdasarkan konsekuensi.
Equipment Risk Ranking	hasil dari kobinasi antara likelihood dan criticality ranking.

REFERENSI

Dokumen	Judul
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NORSOk Z-008 2001 (Rev.2, Nov. 2001)	Criticality analysis for maintenance purposes
ISO 14224 (October 2016)	Petroleum, petrochemical and natural gas industries – Collection and exchange of reliability and maintenance data for equipment, 2006

BAB I
PENDAHULUAN

Salah satu persyaratan yang ada pada Pedoman Tata Kerja SKK Migas Nomor: PTK-041/SKKO0000/2015/S0 adalah adanya data dan dokumen yang terkait dengan program pemeliharaan antara lain data integritas dan keandalan salah satunya adalah criticality ranking. Dokumen ini menjelaskan bagaimana penilaian semacam itu dapat dilakukan. Proses kerja dan langkah-langkah dalam melakukan penilaian dijelaskan dalam dokumen ini.

1.1 Ikhtisar

Berbagai komponen yang mendukung proses pengolahan gas alam pada gas central processsing unit begitu kompleks dan jumlahnya tidak sedikit. Dalam melakukan perawatan terhadap komponen-komponen tersebut, sangat tidak efisien dan tidak memungkinkan apabila memberikan perhatian terhadap setiap komponen yang jumlahnya banyak sedangkan sumberdaya yang dimiliki sangat terbatas. Oleh karena itu suatu perusahaan perlu memiliki metodologi atau pedoman dalam menentukan tingkat kekritisan asset. Dan hal ini juga akan membantu perusahaan dalam memprioritaskan kegiatan perawatan terhadap asset yang dinilai memiliki kekritisan tingkat tinggi.

1.2 Tujuan

Dokumen ini menjelaskan proses kerja dan langkah-langkah dalam melakukan ECA dan pekerjaan persiapan yang diperlukan sebelum melaksanakannya. Pedoman ini mencakup peralatan berikut: semua peralatan dan utilitas terkait proses di fasilitas produksi lepas pantai atau di darat, sistem separator, sistem kompresi gas, sistem pembakaran flare, sistem bahan bakar gas, fasilitas ekspor, terminal minyak dan gas dan lain sebagainya. Pedoman ini tidak mencakup fasilitas pipeline, pigging, sumur dan lain sebagainya. Secara khusus, peralatan berikut dilindungi oleh pedoman ini, minimal:

- Peralatan mekanik seperti
  - Peralatan statik
  - Peralatan rotasi
  - Piping
- Peralatan Instrument
- Peralatan elektrik

Daftar ini sesuai dengan daftar yang ada pada Norsok Z-008. Pipeline dan struktur bangunan apung dikecualikan dari ruang lingkup dokumen ini.

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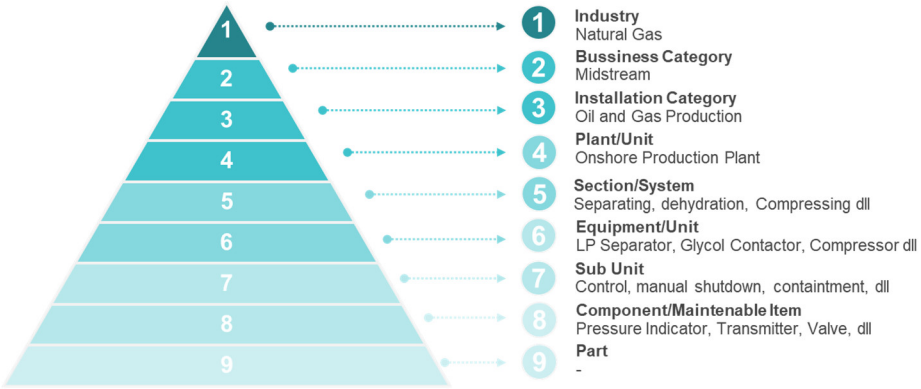
BAB II
ASSET HIRARKI

Sebelum melakukan penilaian, tim ECA sebaiknya melakukan pengklasifikasian terhadap asset yang dimiliki mulai dari klasifikasi yang tertinggi sampai ke yang terendah. Pengklasifikasian ini dapat merujuk ke ISO 14224.

2.1 Asset Hirarki

Pengklasifikasian asset yang diatur berdasarkan fungsinya, dari tingkatan tertinggi hingga tingkatan terendah. ISO 14224 membahas ini lebih lanjut dalam mengklasifikasikan suatu asset dari tingkatan tertinggi sampai ke yang terendah. **Gambar 1** menunjukkan hirarki ISO 14224.



Gambar 1 Contoh Asset Hirarki ISO 14224

Tabel 1 memberikan deskripsi dan contoh dari berbagai tingkat taksonomi. Level 1 hingga Level 5 digunakan untuk mengelompokkan peralatan sesuai dengan bagaimana suatu peralatan digunakan sesuai dengan jenis industrinya. Level 6 sampai Level 9 terkait dengan pengelompokan secara teknis. ECA dimulai pada Level 6 dengan menentukan nilai hilangnya fungsi suatu unit peralatan dan kemudian berlanjut ke Level 8.

Lampiran 1 menunjukkan contoh pengkasifikasian sebuah platform dimulai pada Level 4 sampai ke Level 8.

Untuk lebih banyak contoh hirarki, silahkan lihat Tabel A.1, Tabel A.2, Tabel A.3, dan Tabel A.4 pada ISO 14224.

Tabel 1 Contoh dan Diskripsi Asset Hirarki

Main category	Taxonomic level	Taxonomy hierarchy	Definition	Examples
Use/location	1	Industry	Type of main industry	Petroleum, natural gas, petrochemical, etc
	2	Business category	Type of business or processing stream	Upstream (E and P), midstream, downstream (refining), petrochemical
	3	Installation category	Type of facility	Oil/gas production, transportation, drilling, LNG, refinery, petrochemical
	4	Plant/Unit category	Type of plant/unit	Platform, semi-submersible, hydrocracker, ethylene cracker, polyethylene, etc
	5	Section/ System	Main section/system of the plant	Compression, natural gas, liquefaction, vacuum gas oil, methanol regeneration, oxidation section, etc
Equipment subdivision	6	Equipment class/unit	Class of similar equipment units. Each equipment class contains comparable equipment units (e.g. compressors).	Heat exchangers, compressors, piping, pumps, gas turbines, subsea wellhead and X-mas trees, etc.
	7	Subunit	A subsystem necessary for the equipment unit to function	Lubrication subunit, cooling subunit, control and monitoring, heating subunit, pelletizing subunit, subunit, etc.
	8	Component/ Maintainable item (MI) [a]	The group of parts of the equipment unit that are commonly maintained (repaired/ restored) as a whole	Cooler, coupling, gearbox, lubrication oil pump, instrument loop, motor, valve, filter, pressure sensor, temperature sensor, electric circuit
	9	Part [b]	A single piece of equipment	Seal, tube, shell, impeller, gasket, filter plate, bolt, nut, etc.

a For some types of equipment, there might not be a MI; e.g. if the equipment class is piping, there might be no MI, but the part could be “elbow”.
b While this level can be useful in some cases, it is considered optional in this International Standard.

BAB III
Matriks Risiko

ECA dilakukan dengan menentukan nilai konsekuensi dari peralatan dan frekuensi kegagalan suatu asset. Dalam mengkombinasikan konsekuensi dan frekuensi kegagalan asset ini maka perlu menggunakan matriks risiko untuk kemudian dapat ditentukan tingkat kekritisan asset tersebut.

3.1 Matriks Risiko Perusahaan

Penilaian tingkat risiko menggunakan Matrix Risiko Perusahaan '5x5' yang ditunjukkan pada **Gambar 3**. Matriks mengkategorikan konsekuensi ke dalam lima kategori, dari 1 (terendah) sampai 5 (tertinggi). Dan membagi frekuensi kegagalan ke dalam lima kategori 1 (paling tidak mungkin) hingga 5 (kemungkinan besar). Kombinasi dari konsekuensi dan frekuensi kegagalan menghasilkan parameter yang disebut Peringkat Risiko (1, 2, 3, dll.)

MATRIKS RISIKO		PROBABILITY RATING				
		1	**2**	**3**	**4**	**5**
CONSEQUENCE RATING	**1**	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Gambar 3 Matriks Risiko Perusahaan

3.2 Matriks Risiko ECA

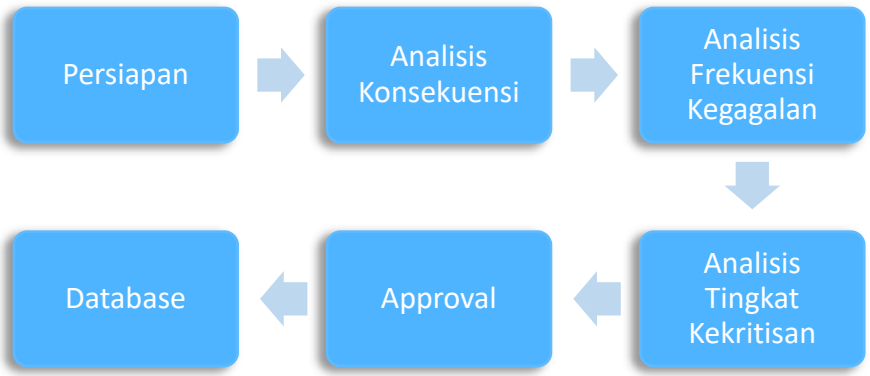
Gambar di bawah ini menunjukkan nilai tingkat kekritisan dengan menggabungkan konsekuensi dan frekuensi. Dengan menggunakan matriks risiko perusahaan sebagai referensi, maka Matriks Risiko ECA dapat dibentuk sebagai berikut:

MATRIKS KEKRITISAN		PROBABILITY				
		1	2	3	4	5
CONSEQUENCE	1	L	L	L	L	L
	2	L	L	M	M	H
	3	L	M	M	H	H
	4	L	M	H	H	H
	5	M	H	H	H	H

Gambar 3 Matriks konsekuensi ECA

BAB IV
PROSES PENGERJAAN ECA

Bagian ini menjelaskan secara terperinci alur kerja atau langkah-langkah yang digunakan untuk melakukan ECA. Gambar 5 menunjukkan alur kerja keseluruhan dari proses ECA.



Gambar 5 Flow Chart ECA

4.1 Persiapan

4.1.1 Informasi

Sebelum melakukan ECA, anggota tim perlu mengumpulkan beberapa informasi sebagai berikut

- Riwayat kegagalan peralatan termasuk rincian seperti durasi downtime, mode kegagalan, dan mekanisme kegagalan,
- Piping & instrumentation diagrams (P & ID),
- Diagram alur proses (PFD)
- Asset Hirarki

Selain itu, anggota tim harus mengenal matriks risiko yang ditunjukkan pada **Gambar 3** dan deskriptor yang diberikan dalam **Lampiran 2a**, **2b**, **2c** dan **Lampiran 3**.

4.1.2 Anggota Tim ECA

Personil yang melakukan latihan ECA dapat dikategorikan secara luas ke dalam Tim Inti dan Tim Dukungan. Tim inti terdiri dari orang-orang berikut:

- Leader
- Personel HSE

- Personel produksi/operasi
- Personel perawatan
- dll

Tidak terbatas pada daftar di atas, tetapi harus memberikan persyaratan minimum dari personel yang dapat berkontribusi pada ECA.

4.2 Analisis Konsekuensi

4.2.1 Langkah 1 – Membuat Asset Hirarki

Tim ECA harus menetapkan hierarki aset yang sedang ditinjau mulai level tertinggi sampai ke level yang terendah. (Lihat BAB II dan ISO 14224 untuk penentuan Asset Hirarki) Untuk ini, tim harus secara jelas mengidentifikasi batas setiap level.

4.2.2 Langkah 2 – Mengidentifikasi fungsi dari asset dan asset register

Dari Level 5 hingga Level 8 (opsional untuk Level 7), tim ECA harus mengidentifikasi fungsi dari masing-masing asset dalam batas yang telah diidentifikasi sebelumnya. Perhatikan bahwa fungsi utama harus dinyatakan dengan sangat jelas, bersama dengan parameter operasi jika diperlukan. Contoh diberikan di bawah ini:

4.2.3 Langkah 3 – Penentuan Failure Scenario dan Ratingnya

tim ECA harus menentukan suatu asset kehilangan fungsinya yang diidentifikasi pada Langkah 2. Tim harus mempertimbangkan skenario kegagalan yang kredibel, menggunakan pengalaman operasional kolektifnya. Salah satu pendekatannya adalah meninjau insiden masa lalu.

4.2.4 Langkah 4 – Analisis Konsekuensi

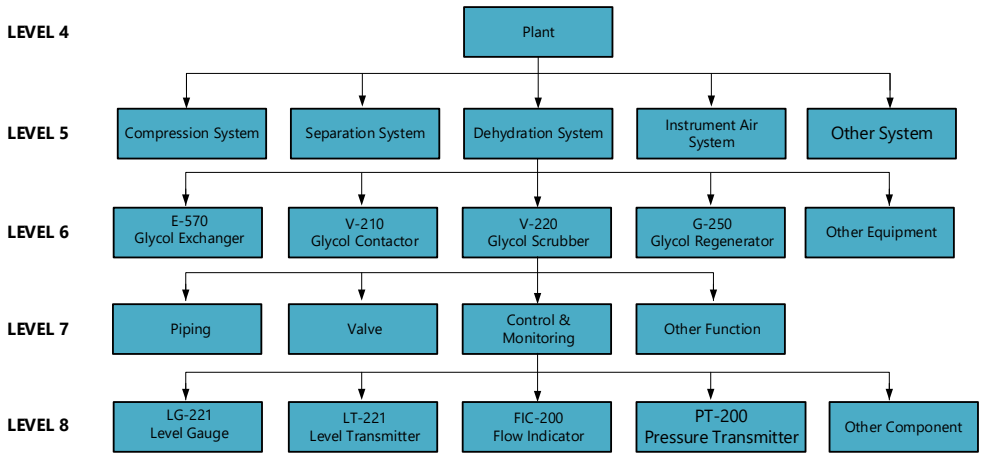
Tim ECA harus secara jelas mendokumentasikan konsekuensi yang ditimbulkan akibat hilangnya suatu fungsi asset berdasarkan skenario kegagalan yang kredibel. Dalam analisa konsekuensi ini dapat memakai 3 kategori yaitu Health and Safety, Environment dan Production

4.2.5 Langkah 5 – Menentukan Rating Kekritisan Asset

Menggunakan penilaian dan deskriptor konsekuensi pada **Lampiran 2a**, **2b** dan **2c** dengan konsekuensi yang ditimbukan akibat hilangnya fungsi utama aset dengan tingkat kekritisan. Dalam kasus di mana frekuensi kegagalan menyebabkan lebih dari satu konsekuensi yang ditimbulkan, maka tingkat kekritisan diambil yang tertinggi.

4.2.6 Langkah 6 – Input ke Database

LAMPIRAN 1
CONTOH ASSET HIRARKI



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LAMPIRAN 2a
IMPACT RATING AND DESCRIPTORS (HEALTH AND SAVETY)

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Injury Without Treatment*
2	*Low*	2	*Injury need Treatment with first aid Box*
3	*Medium*	3	*Medical Treatment Without LTA*
4	*High*	4	*Medical Treatment With LTA*
5	*Very High*	5	*Fatality*

LAMPIRAN 2b
IMPACT RATING AND DESCRIPTORS (PRODUCTION)

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Gas leak (<0,5 MMSCFD)*
2	*Low*	2	*Gas leak (0,5-<1 MMSCFD)*
3	*Medium*	3	*Gas leak (1-<5 MMSCFD)*
4	*High*	4	*Gas Leak (5-10 MMSCFD)*
5	*Very High*	5	*Gas Leak (>10 MMSCFD)*

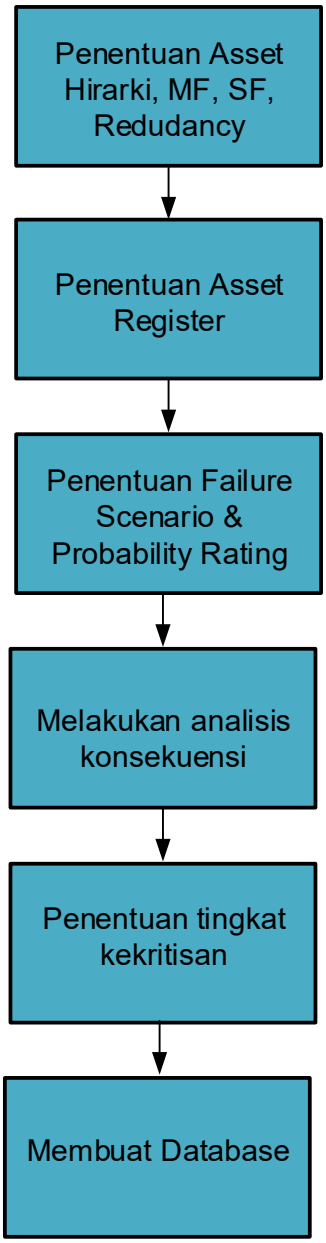
LAMPIRAN 2C
IMPACT RATING AND DESCRIPTORS (ENVIRONMENT)

No	Definition	Indeks	Criteria
1	*Very Low*	1	*Have no nuisance effect at surround area*
2	*Low*	2	*Notable but limited environmental impact*
3	*Medium*	3	*Environmental impact notable lasting environmental damage (Tier 1)*
4	*High*	4	*Large scale environmental damage with national significance (Tier 2)*
5	*Very High*	5	*Severe widespread irreversible environmental damage of international significance (Tier 3)*

LAMPIRAN 3
LIKELIHOOD RATING

No	Definition	Indeks	Criteria
1	*Improbable*	1	*Less then Once per 15 years*
2	*Unlikely Probable*	2	*Once per >10-15 years*
3	*Probable*	3	*Once per > 5-10 years*
4	*Quite Probable*	4	*Once Per >1- 5 years*
5	*Very Probable*	5	*More than Once per year*

LAMPIRAN 4
FLOWCHART FOR ECA PROCESS



LAMPIRAN 2

ASSET REGISTER

ASSET REGISTER

ID LEVEL 1	NGS	REMARK :	
INDUSTRY	NATURAL GAS		
ID LEVEL 2	MID	REMARK :	
BUSSINESS CATEGORY	MIDSTREAM		
ID LEVEL 3	OGP	REMARK :	
INSTALLATION CATEGORY	OIL AND GAS PRODUCTION		
ID LEVEL 4	WNT	REMARK :	
PLANT/UNIT	ONSHORE PRODUCTION PLANT		
NAME OF PLANT			
PLANT OWNER			
ID LEVEL 5	01	REMARK :	
SECTION/SYSTEM	SEPARATING SYSTEM		
ID LEVEL 6	0101	REMARK :	
EQUIPMENT CLASS/UNIT	LP SEPARATOR		
ID LEVEL 7	0101CM	REMARK :	
SUBUNIT/SUBFUNCTION	CONTAINMENT V-110B		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101CM-PG-078-8-6B	8" PIPING	PIP	LP EAST TRUNKLINE	PG-103-16-6B	721-WUN-20-05-001	A
0101CM-PG-103-16-3B-01	16" PIPING	PIP	PG-103-16-3B-02	V-110B	721-WUN-20-05-001	A
0101CM-DL-101-2-1B	2" PIPING	PIP	V-110B	CLOSED DRAIN HEADER	721-WUN-20-05-001	A
0101CM-FL-101-8-1B	8" PIPING	PIP	PG-103B-2-3B	LP FLARE HEADER	721-WUN-20-05-001	A
0101CM-PG-092-6-6B	6" PIPING	PIP	MANIFOLD WUNUT 1	PG-103-16-6B	721-WUN-20-05-001	A
0101CM-PG-053-8-6B	8" PIPING	PIP	HP WEST TRUNKLINE	PG-102-16-6B	721-WUN-20-05-001	A
0101CM-PG-090-8-6B	8" PIPING	PIP	HP WEST TRUNKLINE	PG-102-16-6B	721-WUN-20-05-001	A
0101CM-PG-091-8-6B	8" PIPING	PIP	LP EAST TRUNKLINE	PG-102-16-6B	721-WUN-20-05-001	A
0101CM-PG-102-16-6B	PG-078-8-6B	PIP	PG-103-16-3B-02		721-WUN-20-05-001	A
0101CM-PG-103-16-3B-02	16" PIPING	PIP	PG-102-16-6B	PG-103-16-3B-01	721-WUN-20-05-001	A
0101CM-PG-103A-6-3B	6" PIPING	PIP	V-110B	PG-103B-2-3B	721-WUN-20-05-001	A
0101CM-PG-103B-2-3B	2" PIPING	PIP	PG-103A-6-3B	FL-101-8-1B	721-WUN-20-05-001	A
0101CM-PG-104-16-3B	16" PIPING	PIP	V-110B	COMPRESSOR SUCTION HEADER	721-WUN-20-05-001	A
0101CM-PG-114-6-3B-01	6" PIPING	PIP	PG-104-16-3B	HP SEPARATOR INLET	721-WUN-20-05-001	A
0101CM-PL-101-2-3B	2" PIPING	PIP	V-110B	CLOSED DRAIN HEADER	721-WUN-20-05-001	A
0101CM-FL-101A-6-1B	6" PIPING	PIP	HP FLARE HEADER	FL-101-8-1B	721-WUN-20-05-001	A

ASSET REGISTER

ID LEVEL 5	01	REMARK :	
SECTION/SYSTEM	SEPARATING SYSTEM		
ID LEVEL 6	0101	REMARK :	
EQUIPMENT CLASS/UNIT	LP SEPARATOR		
ID LEVEL 7	0101CN	REMARK :	
SUBUNIT/SUBFUNCTION	CONTROLLING V-110B		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101CN-LS-110B-02	LEVEL SWITCH	INS			721-WUN-20-05-001	A
0101CN-ZSO-110B	POSITION SWITCH OPEN	INS			721-WUN-20-05-001	A
0101CN-ZS-110B	POSITION SWITCH	INS			721-WUN-20-05-001	A
0101CN-LCV-110B	2" LEVEL CONTROL VALVE	INS			721-WUN-20-05-001	A
0101CN-ZSC-110B	POSITION SWITCH CLOSED	INS			721-WUN-20-05-001	A
0101CN-FSD-01	FIRE SHUTDOWN	INS			721-WUN-20-05-001	A
0101CN-LS-110B-01	LEVEL SWITCH	INS			721-WUN-20-05-001	A
0101CN-FSD-02	FIRE SHUTDOWN	INS			721-WUN-20-05-001	A
0101CN-PCV-110B	2" PRESSURE CONTROL VALVE	INS			721-WUN-20-05-001	A
0101CN-PS-110B1	PRESSURE SWITCH	INS			721-WUN-20-05-001	A
0101CN-PS-110B2	PRESSURE SWITCH	INS			721-WUN-20-05-001	A

ID LEVEL 5	01	REMARK :	
SECTION/SYSTEM	SEPARATING SYSTEM		
ID LEVEL 6	0101	REMARK :	
EQUIPMENT CLASS/UNIT	LP SEPARATOR		
ID LEVEL 7	0101LI	REMARK :	
SUBUNIT/SUBFUNCTION	LOCAL INDICATION V-110B		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101LI-FQI-V-110B	FLOW QUANTITY INDICATOR	INS			721-WUN-20-05-001	A
0101LI-PI-110B	PRESSURE INDICATOR	INS			721-WUN-20-05-001	A
0101LI-PIC-102B	PRESSURE INDICATING	INS			721-WUN-20-05-001	A
0101LI-PT-110B	PRESSURE TRANSMITTER	INS			721-WUN-20-05-001	A
0101LI-LT-110B	LEVEL TRANSMITTER	INS			721-WUN-20-05-001	A
0101LI-LICA-110B	LEVEL INDICATOR CONTROLLER	INS			721-WUN-20-05-001	A

0101LI-I/P-V-110B-02	TRANSDUCER	INS			721-WUN-20-05-001	A
0101LI-FIT-110B	FLOW INDICATING TRANSMITTER	INS			721-WUN-20-05-001	A
0101LI-FE-110B	FLOW ELEMENT	INS			721-WUN-20-05-001	A
0101LI-LG-110B	LEVEL GAUGE	INS			721-WUN-20-05-001	A
0101LI-I/P-V-110B-01	TRANSDUCER	INS			721-WUN-20-05-001	A

ID LEVEL 5 01 REMARK :
SECTION/SYSTEM SEPARATING SYSTEM

ID LEVEL 6 0101 REMARK :
EQUIPMENT CLASS/UNIT LP SEPARATOR

ID LEVEL 7 0101MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING V-110B

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101MN-TI-110B	TEMPERATURE INDICATOR	INS			721-WUN-20-05-001	A
0101MN-PSD	PROCESS SHUTDOWN	INS			721-WUN-20-05-001	A
0101MN-TR-110B	TEMPERATURE RECORDER	INS			721-WUN-20-05-001	A
0101MN-FR-110B	FLOW RECORDER	INS			721-WUN-20-05-001	A
0101MN-PA-110B1	PRESSURE ALARM	INS			721-WUN-20-05-001	A
0101MN-PR-110B	PRESSURE RECORDER	INS			721-WUN-20-05-001	A

ID LEVEL 5 01 REMARK :
SECTION/SYSTEM SEPARATING SYSTEM

ID LEVEL 6 0101 REMARK :
EQUIPMENT CLASS/UNIT LP SEPARATOR

ID LEVEL 7 0101MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-110B

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101MS-2-VLV-DL-101-2-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
0101MS-8-VLV-PG-091-8-6B	8" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
0101MS-0.75-VLV-PL-101-2-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
0101MS-0.75-VLV-PL-101-2-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
0101MS-0.75-VLV-PG-102-16-6B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
0101MS-2-VLV-DL-101-2-1B-01	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A

ASSET REGISTER

	0101MS-2-VLV-PL-101-2-3B-02	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-0.75-VLV-PG-102-16-6B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PG-103-16-3B-01	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PG-103A-6-3B	2" GLOBE VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PG-103B-2-3B-01	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PG-103B-2-3B-02	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PL-101-2-3B-01	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-16-VLV-PG-104-16-3B-01	16" CHECK VALVE	INS			721-WUN-20-05-001	A
	0101MS-16-VLV-PG-104-16-3B-02	16" BALL VALVE MANUAL	INS			721-WUN-20-05-001	B
	0101MS-2-VLV-PL-101-2-3B-04	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-V-110B-04	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-V-110B-03	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-0.75-VLV-DL-101-2-1B	3/4" GLOBE VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-V-110B-01	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-8-VLV-PG-078-8-6B	8" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-6-VLV-PG-092-6-6B	6" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PL-101-2-3B-05	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-6-VLV-PG-103A-6-3B	6" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-6-VLV-PG-114-6-3B-01	6" CHECK VALVE	INS			721-WUN-20-05-001	A
	0101MS-6-VLV-PG-114-6-3B-02	6" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-8-VLV-FL-101-8-1B	8" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-8-VLV-PG-053-8-6B	8" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-PL-101-2-3B-03	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-8-VLV-PG-090-8-6B	8" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A
	0101MS-2-VLV-V-110B-02	2" BALL VALVE MANUAL	INS			721-WUN-20-05-001	A

ID LEVEL 5	**01**	REMARK :	
SECTION/SYSTEM	**SEPARATING SYSTEM**		
ID LEVEL 6	**0101**	REMARK :	
EQUIPMENT CLASS/UNIT	**LP SEPARATOR**		

ID LEVEL 7	**0101MT**	REMARK :	
SUBUNIT/SUBFUNCTION	**MAIN TASK V-110B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101MT-V-110B	LP SEPARATOR	STA			721-WUN-20-05-001	A

ID LEVEL 5	**01**	REMARK :	
SECTION/SYSTEM	**SEPARATING SYSTEM**		
ID LEVEL 6	**0101**	REMARK :	
EQUIPMENT CLASS/UNIT	**LP SEPARATOR**		
ID LEVEL 7	**0101OF**	REMARK :	
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION V-110B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101OF-3x2-RDC-PG-103B-2-3B	3"x2" REDUCER	INS			721-WUN-20-05-001	A
0101OF-2x1-RDC-PL-101-2-3B-02	2"x1" REDUCER	INS			721-WUN-20-05-001	A
0101OF-2x1-RDC-PL-101-2-3B-01	2"x1" REDUCER	INS			721-WUN-20-05-001	A
0101OF-TW-110B	THERMOWELL	INS			721-WUN-20-05-001	A

ID LEVEL 5	**01**	REMARK :	
SECTION/SYSTEM	**SEPARATING SYSTEM**		
ID LEVEL 6	**0101**	REMARK :	
EQUIPMENT CLASS/UNIT	**LP SEPARATOR**		
ID LEVEL 7	**0101PR**	REMARK :	
SUBUNIT/SUBFUNCTION	**PRESSURE RELIEF V-110B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101PR-PSV-110B	PRESSURE SAFETY VALVE	INS			721-WUN-20-05-001	A

ID LEVEL 5	**01**	REMARK :	
SECTION/SYSTEM	**SEPARATING SYSTEM**		
ID LEVEL 6	**0101**	REMARK :	
EQUIPMENT CLASS/UNIT	**LP SEPARATOR**		
ID LEVEL 7	**0101SP**	REMARK :	
SUBUNIT/SUBFUNCTION	**SHUTDOWN PROCESS V-110B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0101SP-SDV-110B	SHUTDOWN VALVE	INS			721-WUN-20-05-001	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		

ASSET REGISTER

ID LEVEL 6 0201 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL CONTACTOR

ID LEVEL 7 0201CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT V-210

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201CM-PG-017-10-3B	10" PIPING	PIP	V-210	V-220	721-WUN-PI-110A	A
0201CM-PG-016-8-3B	8" PIPING	PIP	PRODUCTION SEPARATOR (V-110)	V-210	721-WUN-27-05-003	A
0201CM-FL-013-6-1B	6" PIPING	PIP	V-210	FL-032-12-1B	721-WUN-PI-110A	A
0201CM-PG-118-10-3B-01	10" PIPING	PIP	GAS COMPRESSOR DISCH. HEADER	PG-119-12-3B	721-WUN-27-05-003	A
0201CM-PG-119-12-3B	8" PIPING	PIP	PG-118-10-3B	PG-120-8-3B	721-WUN-27-05-003	A
0201CM-PG-120-8-3B	8" PIPING	PIP	PG-119-12-3B	V-200	721-WUN-27-05-003	A
0201CM-PG-122-8-3B	8" PIPING	PIP	PG-119-12-3B	PG-124-12-3B	721-WUN-27-05-003	A
0201CM-GL-033-2-3B	2" PIPING	PIP	V-210	FLASH SEPARATOR (V-280)	721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0201 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL CONTACTOR

ID LEVEL 7 0201CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING V-210

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201CN-LC-211	LEVEL CONTROLLER	INS			721-WUN-PI-110A	A
0201CN-LCV-211	2" LEVEL CONTROL VALVE	INS			721-WUN-PI-110A	A
0201CN-LCV-212	2" LEVEL CONTROLLER VALVE	INS			721-WUN-PI-110A	A
0201CN-LSL-211	LEVEL SWITCH LOW	INS			721-WUN-PI-110A	A
0201CN-LC-212	LEVEL CONTROLLER	INS			721-WUN-PI-110A	A
0201CN-FCV-501-01	8" FLOW CONTROL VALVE	INS			721-WUN-27-05-003	A
0201CN-LSH-211	LEVEL SWITCH HIGH	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0201 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL CONTACTOR

ASSET REGISTER

ID LEVEL 7	**0201LI**	REMARK :	
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION V-210**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201LI-I/P-FCV-501	TRANSDUCER	INS			721-WUN-27-05-003	A
0201LI-PI-211	PRESSURE INDICATOR	INS			721-WUN-PI-110A	A
0201LI-LT-212	LEVEL TRANSMITTER	INS			721-WUN-PI-110A	A
0201LI-LT-211	LEVEL TRANSMITTER	INS			721-WUN-PI-110A	A
0201LI-PIC-501	PRESSURE INDICATING	INS			721-WUN-27-05-003	A
0201LI-FT-501	FLOW TRANSMITTER	INS			721-WUN-27-05-003	A
0201LI-FIC-501	FLOW INDICATING	INS			721-WUN-27-05-003	A
0201LI-LIC-212	LEVEL INDICATOR CONTROLLER	INS			721-WUN-PI-110A	A
0201LI-LIC-211	LEVEL INDICATOR CONTROLLER	INS			721-WUN-PI-110A	A
0201LI-LG-212	LEVEL GAUGE	INS			721-WUN-PI-110A	A
0201LI-LG-211	LEVEL GAUGE	INS			721-WUN-PI-110A	A
0201LI-I/P-212	TRANSDUCER	INS			721-WUN-PI-110A	A
0201LI-PT-211	PRESSURE TRANSMITTER	INS			721-WUN-PI-110A	A
0201LI-I/P-211	TRANSDUCER	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0201**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL CONTACTOR**		
ID LEVEL 7	**0201MN**	REMARK :	
SUBUNIT/SUBFUNCTION	**MONITORING V-210**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201MN-LAL-211	LEVEL ALARM LOW	INS			721-WUN-PI-110A	A
0201MN-LAH-211	LEVEL ALARM HIGH	INS			721-WUN-PI-110A	A
0201MN-FY-501	FLOW CONVERTER	INS			721-WUN-27-05-003	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0201**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL CONTACTOR**		

ASSET REGISTER

ID LEVEL 7 0201MS REMARK :

SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-210

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201MS-1.5-VLV-V-210-02	1 1/2" GATE VALVE	INS			721-WUN-PI-110A	A
0201MS-0.5-VLV-01	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-1-VLV-01	1" GATE VALVE	INS			721-WUN-PI-110A	A
0201MS-0.5-VLV-V-210-01	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-0.5-VLV-V-210-02	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-0.75-VLV-V-210-01	3/4" ANGLE VALVE	INS			721-WUN-PI-110A	A
0201MS-0.75-VLV-V-210-02	3/4" ANGLE VALVE	INS			721-WUN-PI-110A	A
0201MS-1.5-VLV-01	1 1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-1.5-VLV-V-210-01	1 1/2" GATE VALVE	INS			721-WUN-PI-110A	A
0201MS-8-VLV-PG-122-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-0.75-VLV-PG-119-12-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-1.5-VLV-02	1 1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-2-VLV-GL-033-2-3B-01	2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-0.75-VLV-PG-122-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-8-VLV-PG-122-8-3B-02	8" GATE VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-8-VLV-PG-122-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-2-VLV-GL-033-2-3B-02	2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-2-VLV-V-210-01	2" BALL VALVE	INS			721-WUN-PI-110A	A
0201MS-2-VLV-V-210-02	2" GATE VALVE	INS			721-WUN-PI-110A	A
0201MS-4-VLV-V-210	4" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0201MS-6-VLV-FL-013-6-1B	6" BALL VALVE	INS			721-WUN-PI-110A	A
0201MS-0.75-VLV-PG-119-12-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-0.75-VLV-PG-122-8-3B-02	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0201MS-8-VLV-V-200-01	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A

ID LEVEL 5 02 REMARK :

SECTION/SYSTEM DEHYDRATION SYSTEM

ASSET REGISTER

ID LEVEL 6	**0201**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL CONTACTOR**		
ID LEVEL 7	**0201MT**	REMARK :	
SUBUNIT/SUBFUNCTION	**MAIN TASK V-210**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201MT-V-210	GLYCOL CONTACTOR	STA			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0201**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL CONTACTOR**		
ID LEVEL 7	**0201OF**	REMARK :	
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION V-210**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201OF-RO-211	RESTRICTION ORIFICE	INS			721-WUN-PI-110A	A
0201OF-1x1.5-RDC-01	1"x1 1/2" REDUCER	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0201**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL CONTACTOR**		
ID LEVEL 7	**0201PR**	REMARK :	
SUBUNIT/SUBFUNCTION	**PRESSURE RELIEF V-210**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0201PR-PSV-211	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0202**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SCRUBBER**		
ID LEVEL 7	**0202CM**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTAINMENT V-220**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202CM-PL-009-2-3B	2" PIPING	PIP	V-220	LIQUID GLYCOL DRUM	721-WUN-PI-110A	A
0202CM-PG-123-8-3B	8" PIPING	PIP	V-200	PG-124-12-3B	721-WUN-27-05-003	A
0202CM-FG-001-3-1B	3" PIPING	PIP	PG-124-12-3B	FUEL GAS SCRUBBER	721-WUN-27-05-003	A

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0202CM-FL-056-6-1B	6" PIPING	PIP	PG-124-12-3B	LP FLARE HEADER	721-WUN-27-05-003	A
0202CM-PG-124-12-3B	12" PIPING	PIP	PG-123-8-3B	FG-001-3-1B	721-WUN-27-05-003	A
0202CM-GL-013A-2-3B	2" PIPING	PIP	GL-018-1-3B	RICH GLYCOL TO STILL COLUMN	721-WUN-PI-110A	A
0202CM-PG-018-8-3B	8" PIPING	PIP	V-220	CUSTODY FLOW METER	721-WUN-PI-110A	A
0202CM-FL-057-4-1B	4" PIPING	PIP	PG-124-12-3B	EXISTING FLARE HEADER	721-WUN-27-05-003	A
0202CM-GL-018-1-3B	1" PIPING	PIP	V-220	GL-013A-2-3B	721-WUN-PI-110A	A
0202CM-PG-125-12-3B-01	12" PIPING	PIP	PG-124-12-3B	COSTODY FLOW METERS	721-WUN-27-05-003	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202CN-PCV-132	4" PRESSURE CONTROL VALVE	INS			721-WUN-27-05-003	A
0202CN-FCV-200	8" FLOW CONTROL VALVE	INS			721-WUN-PI-110A	A
0202CN-FCV-501-02	8" FLOW CONTROL VALVE	INS			721-WUN-27-05-003	A
0202CN-PCV-131	6" PRESSURE CONTROL VALVE	INS			721-WUN-27-05-003	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202LI-PT-132	PRESSURE TRANSMITTER	INS			721-WUN-27-05-003	A
0202LI-LT-221	LEVEL TRANSMITTER	INS			721-WUN-PI-110A	A
0202LI-PT-200	PRESSURE TRANSMITTER	INS			721-WUN-PI-110A	A
0202LI-FIC-200-V-200-02	FLOW INDICATING	INS			721-WUN-27-05-003	A
0202LI-FT-200	FLOW TRANSMITTER	INS			721-WUN-PI-110A	A
0202LI-FIC-200	FLOW INDICATOR CONTROL	INS			721-WUN-PI-110A	A

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0202LI-PIC-131	PRESSURE INDICATING	INS			721-WUN-27-05-003	A
0202LI-I/P-FCV-200	TRANSDUCER	INS			721-WUN-27-05-003	A
0202LI-PIC-200	PRESSURE INDICATING	INS			721-WUN-27-05-003	A
0202LI-LG-221	LEVEL GAUGE	INS			721-WUN-PI-110A	A
0202LI-FT-200-V-200-02	FLOW TRANSMITTER	INS			721-WUN-27-05-003	A
0202LI-I/P-PCV-131	TRANSDUCER	INS			721-WUN-27-05-003	A
0202LI-PIC-132	PRESSURE INDICATING	INS			721-WUN-27-05-003	A
0202LI-I/P-PCV-132	TRANSDUCER	INS			721-WUN-27-05-003	A
0202LI-PT-131	PRESSURE TRANSMITTER	INS			721-WUN-27-05-003	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202MN-FY-200-V-200-02	FLOW CONVERTER	INS			721-WUN-27-05-003	A
0202MN-FY-200	FLOW CONVERTER	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202MS-4-VLV-FL-057-4-1B-02	4" GATE VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-8-VLV-PG-123-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-6-VLV-FL-056-6-1B-03	6" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-6-VLV-FL-056-6-1B-02	6" GATE VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-6-VLV-FL-056-6-1B-01	6" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-4-VLV-FL-057-4-1B-03	4" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A

ASSET REGISTER

0202MS-8-VLV-PG-018-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-V-220-01	3/4" ANGLE VALVE	INS			721-WUN-PI-110A	A
0202MS-4-VLV-FL-057-4-1B-01	4" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-0.75-VLV-PG-124-12-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-8-VLV-PG-123-8-3B-02	8" GATE VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-0.75-VLV-PG-123-8-3B-02	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-8-VLV-PG-018-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-PG-018-8-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-PG-124-12-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-0.75-VLV-PG-123-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-1.5-VLV-V-220-02	1 1/2" VALVE	INS			721-WUN-PI-110A	A
0202MS-0.5-VLV-02	0.5" VALVE	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-V-220-02	3/4" ANGLE VALVE	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-PG-018-8-3B-03	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-8-VLV-PG-123-8-3B-04	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-8-VLV-PG-124-12-3B	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-1.5-VLV-V-220-01	1 1/2" VALVE	INS			721-WUN-PI-110A	B
0202MS-8-VLV-PG-123-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-27-05-003	A
0202MS-1-VLV-02	1" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-1-VLV-GL-018-1-3B-01	1" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-1-VLV-GL-018-1-3B-02	1" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-8-VLV-PG-018-8-3B-02	8" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0202MS-0.75-VLV-PG-018-8-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :

SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :

EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202MT REMARK :

SUBUNIT/SUBFUNCTION MAIN TASK V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

0202MT-V-220	GLYCOL SCRUBBER	STA			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0202 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SCRUBBER

ID LEVEL 7 0202OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION V-220

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0202OF-1x1.5-RDC-02	1"x1 1/2" REDUCER	INS			721-WUN-PI-110A	A
0202OF-8x4-RDC-FL-057-4-1B	8"x4" REDUCER	INS			721-WUN-27-05-003	A
0202OF-2x1-RDC-GL-018-1-3B	2"x1" REDUCER	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0203 REMARK :
EQUIPMENT CLASS/UNIT LEAN GLYCOL COOLER

ID LEVEL 7 0203CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT E-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203CM-GL-010-2-3B	2" PIPING	PIP	GL-012-2-3B	V-220	721-WUN-PI-110A	A
0203CM-GL-009-2-3B	2" PIPING	PIP	-	GL-010-2-3B	721-WUN-PI-110A	A
0203CM-GL-019-1-1B	1" PIPING	PIP	GL-009-2-3B	CLOSE DRAIN	721-WUN-PI-110A	A
0203CM-GL-012-2-3B	2" PIPING	PIP	E-230	GL-010-2-3B	721-WUN-PI-110A	B
0203CM-GL-011-1-3B	1"PIPING	PIP	GL-009-2-3B	E-230	721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0203 REMARK :
EQUIPMENT CLASS/UNIT LEAN GLYCOL COOLER

ID LEVEL 7 0203CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING E-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203CN-TCV-231	TEMPERATURE CONTROL VALVE	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6	**0203**	REMARK :	
EQUIPMENT CLASS/UNIT	**LEAN GLYCOL COOLER**		
ID LEVEL 7	**0203LI**	REMARK :	
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION E-230**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203LI-I/P-231	TRANSDUCER	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0203**	REMARK :	
EQUIPMENT CLASS/UNIT	**LEAN GLYCOL COOLER**		
ID LEVEL 7	**0203MS**	REMARK :	
SUBUNIT/SUBFUNCTION	**MANUAL SHUTDOWN E-230**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203MS-2-VLV-GL-011-1-3B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A
0203MS-0.75-VLV-GL-012-2-3B	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-110A	A
0203MS-2-VLV-GL-012-2-3B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0203**	REMARK :	
EQUIPMENT CLASS/UNIT	**LEAN GLYCOL COOLER**		
ID LEVEL 7	**0203MT**	REMARK :	
SUBUNIT/SUBFUNCTION	**MAIN TASK E-230**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203MT-E-230	LEAN GLYCOL COOLER	STA			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0203**	REMARK :	
EQUIPMENT CLASS/UNIT	**LEAN GLYCOL COOLER**		
ID LEVEL 7	**0203OF**	REMARK :	
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION E-230**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203OF-2x1-RDC-GL-009-2-3B	2"x1" REDUCER	INS			721-WUN-PI-110A	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		

ASSET REGISTER

ID LEVEL 6 0203 REMARK :
EQUIPMENT CLASS/UNIT LEAN GLYCOL COOLER

ID LEVEL 7 0203PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF E-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0203PR-PSV-231	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110A	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204CM-GL-003-2-3B-02	2" PIPING	PIP	GI-003-2-3B-01	LEAN GLYCOL	721-WUN-PI-110B	A
0204CM-GL-003-2-3B-01	2" PIPING	PIP	P-240A	GL-020-2-3B	721-WUN-PI-110B	A
0204CM-GL-001-1-1B	1" PIPING	PIP	GLYCOL FROM MAKE UP TANK	V-260	721-WUN-PI-110B	A
0204CM-GL-020-2-3B	P2" PIPING	PIP	GL-003-2-3B	GL-021-2-3B	721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204LI-PI-241	PRESSURE INDICATOR	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204MS-0.75-VLV-P-240A	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

0204MS-2-VLV-GL-001-1-1B	2" CHECK VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-2-VLV-GL-003-2-3B-02-01	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-3-VLV-P-240A	3" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-0.5-VLV-GL-003-2-3B-02	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-0.5-VLV-P-240A	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-2-VLV-GL-003-2-3B-02-02	2" CHECKVALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-2-VLV-GL-003-2-3B-01	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0204MS-2-VLV-GL-003-2-3B-02-03	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204MT-P-240A	GLYCOL ABSORBER A	STA			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204OF-3x2-RDC-P-240A	3"x2" REDUCER	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0204 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL ABSORBER A

ID LEVEL 7 0204PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF P-240A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0204PR-PSV-241-1	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0205** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL ABSORBER B**
ID LEVEL 7	**0205CM** REMARK :
SUBUNIT/SUBFUNCTION	**CONTAINMENT P-240B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0205CM-GL-020-2-1B	2" PIPING	PIP	GL-021-2-3B	V-260	721-WUN-PI-110B	A
0205CM-GL-014-3-1B	3" PIPING	PIP	P-240B	GL-002-2-1B	721-WUN-PI-110B	A
0205CM-GL-021-2-3B	2" PIPING	PIP	GL-004-2-3B	GL-020-2-3B	721-WUN-PI-110B	A
0205CM-GL-004-2-3B	2" PIPING	PIP	P-240B	GL-021-2-3B	721-WUN-PI-110B	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0205** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL ABSORBER B**
ID LEVEL 7	**0205MS** REMARK :
SUBUNIT/SUBFUNCTION	**MANUAL SHUTDOWN P-240B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0205MS-0.75-VLV-P-240B	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0205MS-0.5-VLV-GL-014-3-1B	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0205MS-2-VLV-GL-021-2-3B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0205MS-2-VLV-GL-004-2-3B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0205MS-3-VLV-GL-014-3-1B	3" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0205** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL ABSORBER B**
ID LEVEL 7	**0205MT** REMARK :
SUBUNIT/SUBFUNCTION	**MAIN TASK P-240B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0205MT-P-240B	GLYCOL ABSORBER B	STA			721-WUN-PI-110B	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**

ASSET REGISTER

ID LEVEL 6	**0205**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL ABSORBER B**		
ID LEVEL 7	**0205OF**	REMARK :	
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION P-240B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0205OF-PLD-01	PULSATION DANPER	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0205**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL ABSORBER B**		
ID LEVEL 7	**0205PR**	REMARK :	
SUBUNIT/SUBFUNCTION	**PRESSURE RELIEF P-240B**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0205PR-PSV-241-2	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0206**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL REGENERATOR**		
ID LEVEL 7	**0206CM**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTAINMENT G-250**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206CM-DL-007-0.5-1B	1/2" PIPING	PIP			721-WUN-PI-110B	A
0206CM-GL-015-3-1B-01	3" PIPING	PIP	G-250	GL-015-3-1B	721-WUN-PI-110B	A
0206CM-FL-006-4-1B	4" PIPING	PIP	G-250	LIQUID TO CLOSE DRAIN	721-WUN-PI-110B	A
0206CM-GL-007-2-1B	2" PIPING	PIP	GL-008-2-1B	GL-019-2-1B	721-WUN-PI-110B	A
0206CM-GL-008-2-1B	2" PIPING	PIP	GL-019-2-1B	GL-007-2-1B	721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0206**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL REGENERATOR**		
ID LEVEL 7	**0206CN**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTROLLING G-250**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

ASSET REGISTER

0206CN-SDY-251	SHUTDOWN COMPUTER	INS			721-WUN-PI-110B	A
0206CN-TCY-251	TEMPERATURE CONTROLLER COMPUTER	INS			721-WUN-PI-110B	A
0206CN-TSH-251	TEMPERATURE SWITCH HIGH	INS			721-WUN-PI-110B	A
0206CN-TSHH-251	TEMPERATURE SWITCH HIGH HIGH	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0206 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL REGENERATOR

ID LEVEL 7 0206LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION G-250

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206LI-I/P-251	TRANSDUCER	INS			721-WUN-PI-110B	A
0206LI-TIC-251	TEMPERATURE INDICATOR CONTROLLER	INS			721-WUN-PI-110B	A
0206LI-TT-251	TEMPERATURE TRANSMITTER	INS			721-WUN-PI-110B	A
0206LI-LG-251	LEVEL GAUGE	INS			721-WUN-PI-110B	A
0206LI-TT-252	TEMPERATURE TRANSMITTER	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0206 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL REGENERATOR

ID LEVEL 7 0206MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING G-250

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206MN-TI-251-1	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A
0206MN-TAHH-251	TEMPERATURE ALARM HIGH HIGH	INS			721-WUN-PI-110B	A
0206MN-TI-252-02	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A
0206MN-TI-252-01	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A
0206MN-TAH-251-02	TEMPERATURE ALARM HIGH	INS			721-WUN-PI-110B	A
0206MN-TR-201-1	TEMPERATURE RECORDER	INS			721-WUN-PI-110B	A
0206MN-SY-251-1	SPEED COMPUTER	INS			721-WUN-PI-110B	A
0206MN-TAH-251-01	TEMPERATURE ALARM HIGH	INS			721-WUN-PI-110B	A

ASSET REGISTER

ID LEVEL 5	02	REMARK :	
SECTION/SYSTEM	DEHYDRATION SYSTEM		
ID LEVEL 6	0206	REMARK :	
EQUIPMENT CLASS/UNIT	GLYCOL REGENERATOR		
ID LEVEL 7	0206MS	REMARK :	
SUBUNIT/SUBFUNCTION	MANUAL SHUTDOWN G-250		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206MS-0.75-VLV-V-G-250-01	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-1-VLV-V-G-250-01	1" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-2-VLV-G-250	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-1-VLV-V-G-250-02	1" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-0.5-VLV-DL-007-0.5-1B	1/2" BALL VALVE	INS			721-WUN-PI-110B	A
0206MS-0.75-VLV-V-G-250-02	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-0.5-VLV-GL-007-2-1B	0.5" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-0.5-VLV-GL-008-2-1B	0.5" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-2-VLV-GL-007-2-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0206MS-0.75-VLV-DL-007-0.5-1B-02	3/4" THREE WAY VALVE AUTOMATIC	INS			721-WUN-PI-110B	A
0206MS-0.75-VLV-DL-007-0.5-1B-01	3/4" THREE WAY VALVE AUTOMATIC	INS			721-WUN-PI-110B	A
0206MS-2-VLV-GL-007-2-1B-01	2" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5	02	REMARK :	
SECTION/SYSTEM	DEHYDRATION SYSTEM		
ID LEVEL 6	0206	REMARK :	
EQUIPMENT CLASS/UNIT	GLYCOL REGENERATOR		
ID LEVEL 7	0206MT	REMARK :	
SUBUNIT/SUBFUNCTION	MAIN TASK G-250		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206MT-G-250	GLYCOL REGENERATOR	ROT			721-WUN-PI-110B	A

ID LEVEL 5	02	REMARK :	
SECTION/SYSTEM	DEHYDRATION SYSTEM		
ID LEVEL 6	0206	REMARK :	
EQUIPMENT CLASS/UNIT	GLYCOL REGENERATOR		

ID LEVEL 7 0206OF REMARK :

SUBUNIT/SUBFUNCTION OTHER FUNCTION G-250

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0206OF-0.75x0.5-RDC-DL-007-0.5-1B-02	3/4" REDUCER	INS			721-WUN-PI-110B	A
0206OF-0.75x0.5-RDC-DL-007-0.5-1B-01	3/4" REDUCER	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :

SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :

EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207CM REMARK :

SUBUNIT/SUBFUNCTION CONTAINMENT E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0207CM-GL-018-3-1B	3" PIPING	PIP	E-570	DL-008-2-1B	721-WUN-PI-110B	A
0207CM-DL-008-2-1B	2" PIPING	PIP	GL-018-3-1B	V-580	721-WUN-PI-110B	A
0207CM-GL-016-2-1B	2" PIPING	PIP	E-570	GL-015-3-1B	721-WUN-PI-110B	A
0207CM-GL-015-3-1B-02	3" PIPING	PIP	GL-016-2-1B	LEAN GLYCOL TO FLASH SEPARATOR	721-WUN-PI-110B	A
0207CM-GL-012-2-1B-01	2" PIPING	PIP	RICH GLYCOL FROM FILTERS	E-570	721-WUN-PI-110B	A
0207CM-GL-014-2-1B	2" PIPING	PIP	E-570	G-250	721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :

SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :

EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207CN REMARK :

SUBUNIT/SUBFUNCTION CONTROLLING E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0207CN-LCV-283	2" LEVEL CONTROLLER VALVE	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :

SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :

EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207LI REMARK :

SUBUNIT/SUBFUNCTION LOCAL INDICATION E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

0207LI-I/P-283	TRANSDUCER	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0207MN-TI-271	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A
0207MN-TI-272	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A
0207MN-TI-273	TEMPERATURE INDICATOR	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0207MS-3-VLV-GL-017-4-1B	3" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0207MS-3-VLV-GL-016-2-1B	3" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0207MS-3-VLV-GL-015-3-1B	3" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0207MS-2-VLV-E-570	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0207MS-0.5-VLV-E-570	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0207MS-2-VLV-GL-012-2-1B-01	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0207 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL EXCHANGER

ID LEVEL 7 0207MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK E-570

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0207MT-E-570	GLYCOL EXCHANGER	STA			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0208** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL FLASH SEPARATOR**
ID LEVEL 7	**0208CM** REMARK :
SUBUNIT/SUBFUNCTION	**CONTAINMENT V-280**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208CM-PL-004-2-1B	2" PIPING	PIP	V-280	CONDENSATE TO T-130	721-WUN-PI-110C	A
0208CM-GL-002-2-1B	2" PIPING	PIP	V-580	P-240A	721-WUN-PI-110B	A
0208CM-GL-009-2-1B-01	1" PIPING	PIP	V-280	GL-010-2-1B	721-WUN-PI-110C	A
0208CM-FL-023-2-1B	2" PIPING	PIP	V-280	FL-024-4-1B	721-WUN-PI-110C	A
0208CM-GL-015-3-1B	3" PIPING	PIP	LEAN GLYCOL FROM REGENERATOR	GL-017-4-1B	721-WUN-PI-110C	A
0208CM-FL-022-0.5-1B	1/2" PIPING	PIP	V-280	FL-024-4-1B	721-WUN-PI-110C	A
0208CM-GL-002A-2-1B	2" PIPING	PIP	V-580	V-260	721-WUN-PI-110B	A
0208CM-FL-021-4-1B	4" PIPING	PIP	V-280	FL-024-4-1B	721-WUN-PI-110C	A
0208CM-FG-017-1-1B	1" PIPING	PIP	GAS BLANKET FROM GAS SCRUBBER	FL-023-2-1B	721-WUN-PI-110C	A
0208CM-GL-017-4-1B	4" PIPING	PIP	GL-015-3-1B	LEAN GLYCOL TO GLYCOL EXCHANGER	721-WUN-PI-110B	A
0208CM-GL-008-2-3B	2" PIPING	PIP	CONDENSATE FROM CONTACTOR		721-WUN-PI-110C	A
0208CM-DL-004-2-1B	2" PIPING	PIP	V-280	LIQUID TO CLOSE DRAIN	721-WUN-PI-110C	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0208** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL FLASH SEPARATOR**
ID LEVEL 7	**0208CN** REMARK :
SUBUNIT/SUBFUNCTION	**CONTROLLING V-280**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208CN-BPR-DHU-02	BACK PRESSURE REGULATOR	INS			721-WUN-PI-110C	A
0208CN-BPR-DHU-01	BACK PRESSURE REGULATOR	INS			721-WUN-PI-110C	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0208** REMARK :
EQUIPMENT CLASS/UNIT	**GLYCOL FLASH SEPARATOR**

ASSET REGISTER

ID LEVEL 7 0208LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208LI-LT-283	LEVEL TRANSMITTER	INS			721-WUN-PI-110C	A
0208LI-PI-281	PRESSURE INDICATOR	INS			721-WUN-PI-110C	A
0208LI-LIC-283	LEVEL INDICATOR CONTROLLER	INS			721-WUN-PI-110C	A
0208LI-LG-281	LEVEL GAUGE	INS			721-WUN-PI-110C	A
0208LI-LG-282	LEVEL GAUGE	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0208 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL FLASH SEPARATOR

ID LEVEL 7 0208MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208MN-TI-281	TEMPERATURE INDICATOR	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0208 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL FLASH SEPARATOR

ID LEVEL 7 0208MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208MS-2-VLV-FL-023-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-0.5-VLV-V-280-01	1/2" ANGLE VALVE	INS			721-WUN-PI-110C	A
0208MS-1.5-VLV-V-280-02	1 1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-1.5-VLV-V-280-01	1 1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-2-VLV-DL-004-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-0.5-VLV-V-280-03	1/2" ANGLE VALVE	INS			721-WUN-PI-110C	A
0208MS-0.5-VLV-V-280-04	1/2" ANGLE VALVE	INS			721-WUN-PI-110C	A
0208MS-0.5-VLV-V-280-05	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A

0208MS-2-VLV-FG-017-1-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-4-VLV-FL-021-4-1B	4" BALL VALVE MANNUAL	INS			721-WUN-PI-110C	A
0208MS-2-VLV-PL-004-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0208MS-3-VLV-FL-021-4-1B	3" BALL VALV MANUAL	INS			721-WUN-PI-110C	A
0208MS-0.5-VLV-V-280-02	1/2" ANGLE VALVE	INS			721-WUN-PI-110C	A
0208MS-0.75-VLV-V-280	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0208 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL FLASH SEPARATOR

ID LEVEL 7 0208MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208MT-V-280	GYCOL FLASH SEPARATOR	STA			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0208 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL FLASH SEPARATOR

ID LEVEL 7 0208OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208OF-1.5X0.75-RDC-V-280	1 1/2" X 3/4" REDUCER	INS			721-WUN-PI-110C	A
0208OF-1X1.5-RDC-FL-022-0.5-1B	1"X1 1/2" REDUCER	INS			721-WUN-PI-110C	A
0208OF-3X2-RDC-GL-008-2-3B	3"X2" REDUCER	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0208 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL FLASH SEPARATOR

ID LEVEL 7 0208PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF V-280

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0208PR-PSV-281	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0209** REMARK :
EQUIPMENT CLASS/UNIT	**CHARCOAL FILTER**
ID LEVEL 7	**0209CM** REMARK :
SUBUNIT/SUBFUNCTION	**CONTAINMENT F-290**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0209CM-FL-014-2-1B	2" PIPING	PIP	FL-009-2-1B	FL-025-4-1B	721-WUN-PI-110C	A
0209CM-G-011-2-1B	2" PIPING	PIP			721-WUN-PI-110C	A
0209CM-FL-016-0.5-1B	1/2" PIPING	PIP	F-290	FL-017-0.5-1B	721-WUN-PI-110C	A
0209CM-PL-010-0.75-1B	3/4" PIPING	PIP	F-290		721-WUN-PI-110C	A
0209CM-FL-009-2-1B	2" PIPING	PIP	G-011-2-B	FL-014-2-1B	721-WUN-PI-110C	A
0209CM-GL-012-2-1B-02	2" PIPING	PIP	F-290	G-011-2-1B	721-WUN-PI-110C	A
0209CM-GL-013-2-1B	2" PIPING	PIP	G-011-2-1B	GL-012-2-1B	721-WUN-PI-110C	A
0209CM-GL-011-2-1B	2" PIPING	PIP	G-011-2-1B-01	G-011-2-1B-02	721-WUN-PI-110C	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID LEVEL 6	**0209** REMARK :
EQUIPMENT CLASS/UNIT	**CHARCOAL FILTER**
ID LEVEL 7	**0209MS** REMARK :
SUBUNIT/SUBFUNCTION	**MANUAL SHUTDOWN F-290**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0209MS-2-VLV-G-011-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-0.75-VLV-F-290-02	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-2-VLV-FL-014-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-1-VLV-FL-009-2-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-2-VLV-GL-013-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-0.5-VLV-F-290	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-0.75-VLV-F-290-01	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0209MS-2-VLV-GL-012-2-1B-02	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A

ID LEVEL 5	**02** REMARK :
SECTION/SYSTEM	**DEHYDRATION SYSTEM**

ID LEVEL 6	**0209**	REMARK :	
EQUIPMENT CLASS/UNIT	**CHARCOAL FILTER**		
ID LEVEL 7	**0209MT**	REMARK :	
SUBUNIT/SUBFUNCTION	**MAIN TASK F-290**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0209MT-F-290	CHARCOAL FILTER	STA			721-WUN-PI-110C	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0209**	REMARK :	
EQUIPMENT CLASS/UNIT	**CHARCOAL FILTER**		
ID LEVEL 7	**0209OF**	REMARK :	
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION F-290**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0209OF-2x1-RDC-FL-009-2-1B	2"x1" REDUCER	INS			721-WUN-PI-110C	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0209**	REMARK :	
EQUIPMENT CLASS/UNIT	**CHARCOAL FILTER**		
ID LEVEL 7	**0209PR**	REMARK :	
SUBUNIT/SUBFUNCTION	**PRESSURE RELIEF F-290**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0209PR-PSV-291	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110C	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0210**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SURGE DRUM**		
ID LEVEL 7	**0210CM**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTAINMENT V-260**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210CM-4-VNT-V-260	4" VENT	PIP			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0210**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SURGE DRUM**		

ID LEVEL 7	**0210CN**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTROLLING V-260**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210CN-LSL-261	LEVEL SWITCH LOW	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0210**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SURGE DRUM**		
ID LEVEL 7	**0210LI**	REMARK :	
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION V-260**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210LI-LG-261	LEVEL GAUGE	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0210**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SURGE DRUM**		
ID LEVEL 7	**0210MN**	REMARK :	
SUBUNIT/SUBFUNCTION	**MONITORING V-260**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210MN-LAL-261	LEVEL ALARM LOW	INS			721-WUN-PI-110B	A

ID LEVEL 5	**02**	REMARK :	
SECTION/SYSTEM	**DEHYDRATION SYSTEM**		
ID LEVEL 6	**0210**	REMARK :	
EQUIPMENT CLASS/UNIT	**GLYCOL SURGE DRUM**		
ID LEVEL 7	**0210MS**	REMARK :	
SUBUNIT/SUBFUNCTION	**MANUAL SHUTDOWN V-260**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210MS-1.5x0.75-RDC-V-260	1 1/2"x3/4" REDUCER	INS			721-WUN-PI-110B	A
0210MS-1-VLV-V-260	1" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0210MS-0.75-VLV-V-260-02	3/4" THREE WAY VALVE AUTOMATIC	INS			721-WUN-PI-110B	A
0210MS-2-VLV-V-260	2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0210MS-0.75-VLV-V-260-03	3/4" THREE WAY VALVE AUTOMATIC	INS			721-WUN-PI-110B	A
0210MS-3-VLV-V-260-02	3" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

0210MS-0.5-VLV-V-260	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0210MS-3-VLV-V-260-01	3" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0210MS-0.75-VLV-V-260-01	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0210MS-1.5-VLV-V-260	1 1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0210 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SURGE DRUM

ID LEVEL 7 0210MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK V-260

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210MT-V-260	GLYCOL SURGE DRUM	STA			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0210 REMARK :
EQUIPMENT CLASS/UNIT GLYCOL SURGE DRUM

ID LEVEL 7 0210OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION V-260

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0210OF-4x2-RDC-V-260	REDUCER	INS			721-WUN-PI-110B	A
0210OF-0.75x0.5-RDC-V-260-01	3/4" REDUCER	INS			721-WUN-PI-110B	A
0210OF-0.75x0.5-RDC-V-260-02	3/4" REDUCER	INS			721-WUN-PI-110B	A
0210OF-3x1.5-RDC-V-260	3"x1 1/2" REDUCER	INS			721-WUN-PI-110B	A
0210OF-1.5-RDC-V-260	REDUCER	INS			721-WUN-PI-110B	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0211 REMARK :
EQUIPMENT CLASS/UNIT CATRIDGE FILTER

ID LEVEL 7 0211CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT F-290A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0211CM-FL-035-1-1B-01	1" PIPING	PIP	RELIEF GAS GAS DRIP POT	FL-025-4-1B	721-WUN-PI-110C	A

0211CM-FL-015-2-1B	2" PIPING	PIP	FL-010-2-1B	FL-025-4-1B	721-WUN-PI-110C	A
0211CM-FL-017-0.5-1B	1/2" PIPING	PIP	F-290A	FL-025-4-1B	721-WUN-PI-110C	A
0211CM-FL-025-4-1B	4" PIPING	PIP	FL-015-2-1B	FL-027-8-1B	721-WUN-PI-110C	A
0211CM-FL-010-2-1B	2" PIPING	PIP	GL-009-2-1B	FL-015-2-1B	721-WUN-PI-110C	A
0211CM-2-FL-010-2-1B	2" PIPING	PIP			721-WUN-PI-110B	A
0211CM-GL-010-2-1B	2" PIPING	PIP	GL-011-2-1B-01	GL-009-2-1B-02	721-WUN-PI-110C	A
0211CM-GL-009-2-1B-02	2" PIPING	PIP	GL-010-2-1B	F-290A	721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0211 REMARK :
EQUIPMENT CLASS/UNIT CATRIDGE FILTER

ID LEVEL 7 0211MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN F-290A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0211MS-1/2-VLV-F-290A-02	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-0.75-VLV-F-290A	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-2-VLV-GL-010-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-1-VLV-FL-010-2-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-2-VLV-FL-015-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-2-VLV-GL-009-2-1B	2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A
0211MS-1/2-VLV-F-290A-01	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ID LEVEL 6 0211 REMARK :
EQUIPMENT CLASS/UNIT CATRIDGE FILTER

ID LEVEL 7 0211MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK F-290A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0211MT-F-290A	CATRIDGE FILTER	STA			721-WUN-PI-110C	A

ID LEVEL 5 02 REMARK :
SECTION/SYSTEM DEHYDRATION SYSTEM

ASSET REGISTER

ID LEVEL 6 0211 REMARK :
EQUIPMENT CLASS/UNIT CATRIDGE FILTER

ID LEVEL 7 0211PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF F-290A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0211PR-PSV-291A	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110C	A

ID LEVEL 5 03 REMARK :
SECTION/SYSTEM COMPRESSING SYSTEM

ID LEVEL 6 0301 REMARK :
EQUIPMENT CLASS/UNIT GAS COMPRESSOR

ID LEVEL 7 0301CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301CM-FL-105-3-1B	3" PIPING	PIP		FL-103-8-1B	721-WUN-23-05-002	A
0301CM-PG-118A-2-3B	2" PIPING	PIP	PG-118-10-3B	PG-106-16-3B	721-WUN-23-05-002	A
0301CM-UG-104-3-1B	3" PIPING	PIP	UTILITY GAS RECEIVER	UG-105-3-1B	721-WUN-23-05-002	A
0301CM-PG-118-10-3B-02	10" PIPING	PIP	PG-115-10-3B	GLYCOL DEHIDRATION UNIT	721-WUN-23-05-002	A
0301CM-PG-115-10-3B	10" PIPING	PIP	PG-112-6-3B	PG-118-10-3B	721-WUN-23-05-002	A
0301CM-PG-113-6-3B	6" PIPING	PIP		PG-115-10-3B	721-WUN-23-05-002	A
0301CM-PG-108-8-3B	8" PIPING	PIP	PG-106-16-3B	C-390	721-WUN-23-05-002	A
0301CM-PG-105-6-3B	6" PIPING	PIP	HP SEPARATOR	PG-106-16-3B	721-WUN-23-05-002	A
0301CM-FL-106-3-1B	3" PIPING	PIP	C-390	FL-103-8-1B	721-WUN-23-05-002	A
0301CM-UG-105-3-1B	3" PIPING	PIP	UG-104-3-1B	C-390	721-WUN-23-05-002	A
0301CM-FL-103-8-1B	8" PIPING	PIP	FL-106-3-1B	FL-104-8-1B	721-WUN-23-05-002	A
0301CM-PG-112-6-3B	6" PIPING	PIP	C-390	PG-115-10-3B	721-WUN-23-05-002	A
0301CM-FG-105-3-1B	3" PIPING	PIP	FG-104-3-1B	FG-108-2-1B	721-WUN-23-05-002	A
0301CM-FG-104-3-1B	3" PIPING	PIP	FUEL GAS DISTRIBUTION	FG-105-3-1B	721-WUN-23-05-002	A
0301CM-DL-104-2-1B	2" PIPING	PIP			721-WUN-23-05-002	A
0301CM-DL-103-2-1B	2" PIPING	PIP	DL-102-2-1B	CLOSED DRAIN HEADER	721-WUN-23-05-002	A
0301CM-DL-102-2-1B	2" PIPING	PIP	DL-104-2-1B	DL-103-2-1B	721-WUN-23-05-002	A
0301CM-PG-106-16-3B	16" PIPING	PIP	PG-104-16-3B	PG-108-8-3B	721-WUN-23-05-002	A

0301CM-FL-104-8-1B	8" PIPING	PIP	FL-103-8-1B	FLARE HEADER	721-WUN-23-05-002	A
0301CM-FG-108-2-1B	2" PIPING	PIP	FG-105-3-1B	C-390	721-WUN-23-05-002	A

ID LEVEL 5 03 REMARK :
SECTION/SYSTEM COMPRESSING SYSTEM

ID LEVEL 6 0301 REMARK :
EQUIPMENT CLASS/UNIT GAS COMPRESSOR

ID LEVEL 7 0301CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301CN-FCV-370	2" FLOW CONTROL VALVE	INS			721-WUN-23-05-002	A

ID LEVEL 5 03 REMARK :
SECTION/SYSTEM COMPRESSING SYSTEM

ID LEVEL 6 0301 REMARK :
EQUIPMENT CLASS/UNIT GAS COMPRESSOR

ID LEVEL 7 0301LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301LI-IP-PG-118A-2-3B	TRANSDUCER	INS			721-WUN-23-05-002	A
0301LI-PT-370	PRESSURE TRANSMITTER	INS			721-WUN-23-05-002	A
0301LI-PIC-370	PRESSURE INDICATING	INS			721-WUN-23-05-002	A

ID LEVEL 5 03 REMARK :
SECTION/SYSTEM COMPRESSING SYSTEM

ID LEVEL 6 0301 REMARK :
EQUIPMENT CLASS/UNIT GAS COMPRESSOR

ID LEVEL 7 0301MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301MS-2-VLV-FG-105-3-1B-01	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
0301MS-2-VLV-UG-105-3-1B-04	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
0301MS-2-VLV-UG-105-3-1B-03	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
0301MS-2-VLV-UG-105-3-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
0301MS-2-VLV-UG-105-3-1B-01	2" GATE VALVE MANUAL	INS			721-WUN-23-05-002	A

ASSET REGISTER

▶	0301MS-2-VLV-PG-118A-2-3B-03	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-8-VLV-PG-106-16-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-10-VLV-PG-118-10-3B	10" MANUAL GATE VALVE	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-118A-2-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-2-VLV-DL-104-2-1B	2" BALL VALVE	INS			721-WUN-23-05-002	A
▶	0301MS-1-VLV-DL-102-2-1B-03	1" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-1-VLV-DL-102-2-1B-02	1" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-2-VLV-FG-105-3-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-1-VLV-DL-102-2-1B-01	1" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-2-VLV-FG-105-3-1B-03	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-6-VLV-PG-115-10-3B	6" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-118A-2-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-2-VLV-PG-118A-2-3B-01	2" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-8-VLV-PG-108-8-3B	8" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-8-VLV-PG-105-6-3B	8" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-8-VLV-PG-106-16-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-3-VLV-FL-103-8-1B	3" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-106-16-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-6-VLV-PG-113-6-3B	6" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-6-VLV-PG-112-6-3B	6" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-106-16-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-115-10-3B-01	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-3-VLV-FL-106-3-1B	3" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-4-VLV-PG-112-6-3B	4" CHECK VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-6-VLV-PG-105-6-3B	6" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A
▶	0301MS-0.75-VLV-PG-115-10-3B-02	0.75" BALL VALVE MANUAL	INS			721-WUN-23-05-002	A

ID LEVEL 5	**03**	REMARK :	
SECTION/SYSTEM	**COMPRESSING SYSTEM**		
ID LEVEL 6	**0301**	REMARK :	
EQUIPMENT CLASS/UNIT	**GAS COMPRESSOR**		

ASSET REGISTER

ID LEVEL 7 0301MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301MT-C-390	GAS COMPRESSORS RENTAL	ROT			721-WUN-23-05-002	A

ID LEVEL 5 03 REMARK :
SECTION/SYSTEM COMPRESSING SYSTEM

ID LEVEL 6 0301 REMARK :
EQUIPMENT CLASS/UNIT GAS COMPRESSOR

ID LEVEL 7 0301OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION C-390

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0301OF-8x16 RDC-PG-105-6-3B	8"x16" REDUCER	INS			721-WUN-23-05-002	A
0301OF-6x4-RDC-PG-112-6-3B	6"x4" REDUCER	INS			721-WUN-23-05-002	A
0301OF-4x3-RDC-FL-106-3-1B	4"x3" REDUCER	INS			721-WUN-23-05-002	A
0301OF-4x3-RDC-C-390	4"x3" REDUCER	INS			721-WUN-23-05-002	A
0301OF-10x6-RDC-PG-113-6-3B	10"x6" REDUCER	INS			721-WUN-23-05-002	A

ID LEVEL 5 04 REMARK :
SECTION/SYSTEM GAS EXPORT SYSTEM

ID LEVEL 6 0401 REMARK :
EQUIPMENT CLASS/UNIT CUSTODY FLOW METER

ID LEVEL 7 0401CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT FM-102

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401CM-PG-131-8-3B	8" PIPING	PIP	PG-132-12-3B	PG-133-12-3B	721-WUN-25-05-004	A
0401CM-PG-116-10-3B	10" PIPING	PIP	PID 23-005-002A	PG-129-8-3B	721-WUN-25-05-004	A
0401CM-PG-133-12-3B	12" PIPING	PIP	PG-131-8-3B	PGN	721-WUN-25-05-004	A
0401CM-PG-132-12-3B	12" PIPING	PIP	PG-127-8-3B	PG-116-10-3B	721-WUN-25-05-004	A
0401CM-PG-127-8-3B	8" PIPING	PIP	PG-126-12-3B	PG-132-12-3B	721-WUN-25-05-004	A
0401CM-PG-126-12-3B	12" PIPING	PIP	PG-125-12-3B	PG-127-8-3B	721-WUN-25-05-004	A
0401CM-PG-125-12-3B-02	12" PIPING	PIP	GDU OUTLET HEADER	PG-126-12-3B	721-WUN-25-05-004	A
0401CM-PG-129-8-3B	8" PIPING	PIP	PG-116-10-3B	PG-113-12-3B	721-WUN-25-05-004	A

ID LEVEL 5 04 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID LEVEL 6	**0401** REMARK :
EQUIPMENT CLASS/UNIT	**CUSTODY FLOW METER**
ID LEVEL 7	**0401CN** REMARK :
SUBUNIT/SUBFUNCTION	**CONTROLLING FM-102**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401CN-PS-103	PRESSURE SWITCH	INS			721-WUN-25-05-004	A
0401CN-PCV-102	8" PRESSURE CONTROL VALVE	INS			721-WUN-25-05-004	A
0401CN-PCV-101	8" PRESSURE CONTROL VALVE	INS			721-WUN-25-05-004	A
0401CN-PS-104	PRESSURE SWITCH	INS			721-WUN-25-05-004	A

ID LEVEL 5	**04** REMARK :
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID LEVEL 6	**0401** REMARK :
EQUIPMENT CLASS/UNIT	**CUSTODY FLOW METER**
ID LEVEL 7	**0401LI** REMARK :
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION FM-102**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401LI-I/P-PCV-102	TRANSDUCER	INS			721-WUN-25-05-004	A
0401LI-FT-102	FLOW TRANSMITTER	INS			721-WUN-25-05-004	A
0401LI-TT-102	TEMPERATURE TRANSMITTER	INS			721-WUN-25-05-004	A
0401LI-PT-102	PRESSURE TRANSMITTER	INS			721-WUN-25-05-004	A
0401LI-I/P-PCV-101	TRANSDUCER	INS			721-WUN-25-05-004	A
0401LI-FE-102	FLOW ELEMENT	INS			721-WUN-25-05-004	A
0401LI-FQI-102	FLOW QUANTITY INDICATOR	INS			721-WUN-20-05-001	A

ID LEVEL 5	**04** REMARK :
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID LEVEL 6	**0401** REMARK :
EQUIPMENT CLASS/UNIT	**CUSTODY FLOW METER**
ID LEVEL 7	**0401MN** REMARK :
SUBUNIT/SUBFUNCTION	**MONITORING FM-102**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401MN-FR-102-01	FLOW RECORDER	INS			721-WUN-25-05-004	A

ASSET REGISTER

0401MN-TR-102	TEMPERATURE RECORDER	INS			721-WUN-25-05-004	A
0401MN-TI-102	TEMPERATURE INDICATOR	INS			721-WUN-25-05-004	A
0401MN-PA-104	PRESSURE ALARM	INS			721-WUN-25-05-004	A
0401MN-FR-102-02	FLOW RECORDER	INS			721-WUN-25-05-004	A
0401MN-PA-103	PRESSURE ALARM	INS			721-WUN-25-05-004	A

ID LEVEL 5 04 REMARK :

SECTION/SYSTEM GAS EXPORT SYSTEM

ID LEVEL 6 0401 REMARK :

EQUIPMENT CLASS/UNIT CUSTODY FLOW METER

ID LEVEL 7 0401MS REMARK :

SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN FM-102

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401MS-0.75-VLV-PG-131-8-3B-03	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-131-8-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-129-8-3B-02	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-131-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-131-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-129-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-126-12-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-126-12-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-129-8-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-131-8-3B-04	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-131-8-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-131-8-3B-02	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-132-12-3B-04	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-133-12-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-133-12-3B-02	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-10-VLV-PG-1116-10-3B	10" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-6-VLV-PG-131-8-3B	6" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-127-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A

0401MS-8-VLV-PG-127-8-3B-02	8" CHECK VALVE	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-127-8-3B-03	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-132-12-3B	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-8-VLV-PG-129-8-3B-01	8" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-129-8-3B-01	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0401MS-0.75-VLV-PG-132-12-3B-03	3/4" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A

ID LEVEL 5 04 REMARK :
SECTION/SYSTEM GAS EXPORT SYSTEM

ID LEVEL 6 0401 REMARK :
EQUIPMENT CLASS/UNIT CUSTODY FLOW METER

ID LEVEL 7 0401MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK FM-102

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401MT-FM-102	CUSTODY FLOW METER	INS			721-WUN-25-05-004	A

ID LEVEL 5 04 REMARK :
SECTION/SYSTEM GAS EXPORT SYSTEM

ID LEVEL 6 0401 REMARK :
EQUIPMENT CLASS/UNIT CUSTODY FLOW METER

ID LEVEL 7 0401OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION FM-102

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401OF-10x8-RDC-PG-116-10-3B	10"x8" REDUCER	INS			721-WUN-25-05-004	A
0401OF-8x6-RDC-PG-116-10-3B	8"x6" REDUCER	INS			721-WUN-25-05-004	A
0401OF-TW-102	THERMOWELL	INS			721-WUN-25-05-004	A

ID LEVEL 5 04 REMARK :
SECTION/SYSTEM GAS EXPORT SYSTEM

ID LEVEL 6 0401 REMARK :
EQUIPMENT CLASS/UNIT CUSTODY FLOW METER

ID LEVEL 7 0401SP REMARK :
SUBUNIT/SUBFUNCTION SHUTDOWN PROCESS FM-102

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0401SP-SDV-200	SHUTDOWN VALVE	INS			721-WUN-25-05-004	A

0401SP-SDV-102	SHUTDOWN VALVE	INS			721-WUN-25-05-004	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501CM-FG-007-1-1B	1" PIPING	PIP	FG-003-1-1B	FUEL GAS TO GLYCOL REGENERATOR (G-250)	721-WUN-PI-110B	A
0501CM-FG-XXX-3-1B	3" PIPING	PIP	FG-003A-3-1B	PURGE GAS	721-WUN-PI-111	A
0501CM-FG-003A-3-1B	3" PIPING	PIP	FG-002-3-1B	FG-005-2-1B	721-WUN-PI-111	A
0501CM-FG-001-3-3B	3" PIPING	PIP	DRY GAS FROM DEHYDRATION UNITS	F-301	721-WUN-PI-111	A
0501CM-FG-008-1-1B	1" PIPING	PIP	FG-007-1-1B	BLANKET GAS TO GLYCOL TANK (V-160)	721-WUN-PI-111	A
0501CM-FG-002-3-1B	3" PIPING	PIP	FG-003A-3-1B	F-301	721-WUN-PI-111	A
0501CM-FG-003-3-1B	3" PIPING	PIP	FG-003A-3-1B	FG-007-1-1B	721-WUN-PI-111	A
0501CM-FG-005-2-1B	2" PIPING	PIP	FG-003A-3-1B	BLANKET GAS TO LIQUID TANK (V-13- &	721-WUN-PI-111	A
0501CM-FG-101-3-1B	3" PIPING	PIP	FG-003-1-1B	FUEL GAS FILTER (F-302)	721-WUN-60-05-006	A
0501CM-FG-107-1-1B	1" PIPING	PIP	FG-009-2-1B	PILOT FLARE STACK (FL-320B)	721-WUN-PI-111	A
0501CM-FG-106-2-1B	2" PIPING	PIP	FG-003A-3-1B	FUEL GAS TO GLYCOL REGENERATOR (G-550)	721-WUN-PI-111	A
0501CM-FG-103-2-1B	2" PIPING	PIP	FG-106-2-B	BLANKET GAS TO GLYCOL FLASH	721-WUN-PI-111	A
0501CM-UG-101-3-3B	3" PIPING	PIP	FG-001-3-3B	UTILITY GAS RECEIVER	721-WUN-PI-111	A
0501CM-FL-004-2-1B	2" PIPING	PIP	F-301	FLARE HEADER	721-WUN-PI-111	A
0501CM-FG-006-1-1B	1" PIPING	PIP	FG-005-2-1B	BLANKET GLYCOL GAS TO GLYCOL FLASH	721-WUN-PI-111	A
0501CM-FG-009-2-1B	2" PIPING	PIP	FG-003-1-1B	PILOT FLARE STACK (FL-320A)	721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

0501CN-PSHL-301-02	PRESSURE SWITCH (HIGH/LOW)	INS			721-WUN-PI-111	A
0501CN-PSHL-301-01	PRESSURE SWITCH (HIGH/LOW)	INS			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501LI-PI-301	PRESSURE INDICATOR	INS			721-WUN-PI-111	A
0501LI-PT-301	PRESSURE TRANSMITTER	INS			721-WUN-PI-111	A
0501LI-LG-301	LEVEL GAUGE	INS			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501MS-1.5-VLV-F-301-01	1 1/2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-2-VLV-FG-005-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-2-VLV-FG-009-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-2-VLV-FG-106-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-001-3-3B-01	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-001-3-3B-02	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-003A-3-1B-01	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-001-3-3B-03	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-003-3-1B	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-002-3-1B	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-3-VLV-FG-003A-3-1B-02	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-1.5-VLV-F-301-02	1 1/2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A

0501MS-3-VLV-FG-101-3-1B	3" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-0.75-VLV-F-301	3/4" BALL VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-1-VLV-FG-007-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0501MS-1-VLV-FG-107-1-1B	1" GATE VALVE MANUAL	INS			721-WUN-PI-111	A
0501MS-1.5-VLV-F-301-03	1 1/2" BALL VALVE MANUAL	INS			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501MT-F-301	FUEL GAS SCRUBBER	STA			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501OF-2x3-RDC-FG-001-3-3B-02	2"x3" REDUCER	INS			721-WUN-PI-111	A
0501OF-2x3-RDC-FG-001-3-3B-01	2"x3" REDUCER	INS			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0501 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS SCRUBBER

ID LEVEL 7 0501PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF F-301

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0501PR-PSV-301	PRESSURE SAFETY VALVE	INS			721-WUN-PI-111	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502CM-FL-035-1-1B-02	1" PIPING	PIP	FG-007-1-1B	FL-025-4-1B	721-WUN-PI-110B	A
0502CM-DL-003-1-1B	1" PIPING	PIP	V-230	LIQUID TO CLOSE DRAIN	721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502CN REMARK :
SUBUNIT/SUBFUNCTION CONTROLLING V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502CN-PCV-251	2" PRESSURE CONTROL VALVE	INS			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502LI REMARK :
SUBUNIT/SUBFUNCTION LOCAL INDICATION V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502LI-PI-251-2	PRESSURE INDICATOR	INS			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502MN REMARK :
SUBUNIT/SUBFUNCTION MONITORING V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502MN-SY-251-2	SPEED COMPUTER	INS			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502MS-0.75-VLV-FL-035-1-1B	3/4" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-1-VLV-V-230-04	1" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-1-VLV-V-230-01	1" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-0.5-VLV-V-230-05	1/2" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-1-VLV-V-230-03	1" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-1-VLV-V-230-02	1" BALL VALVE MANUAL	INS			721-WUN-PI-110B	A
0502MS-1-VLV-FL-035-1-1B	1" GATE VALVE MANUAL	INS			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502MT-V-230	DRIP POT/FUEL GAS	STA			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0502 REMARK :
EQUIPMENT CLASS/UNIT DRIP FUEL GAS

ID LEVEL 7 0502PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF V-230

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0502PR-PSV-252	PRESSURE SAFETY VALVE	INS			721-WUN-PI-110B	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0503 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS FILTER

ID LEVEL 7 0503CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT F-302

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

0503CM-FG-102-1.5-1B	1 1/2" PIPING	PIP	F-302	FL-106-2-1B	721-WUN-60-05-006	A
0503CM-FL-106-2-1B	2" PIPING	PIP	FG-102-1.5-B	LP FLARE HEADER	721-WUN-60-05-006	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0503 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS FILTER

ID LEVEL 7 0503MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN F-302

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0503MS-0.5-VLV-F-302	1/2" GATE VALVE	INS			721-WUN-60-05-006	A
0503MS-3-VLV-FG-101-3-1B-03	3" BALL VALVE MANUAL	INS			721-WUN-60-05-006	A
0503MS-1.5-VLV-FG-102-1.5-1B	1 1/2" BALL VALVE MANUAL	INS			721-WUN-60-05-006	A
0503MS-3-VLV-FG-101-3-1B-02	3" BALL VALVE MANUAL	INS			721-WUN-60-05-006	A
0503MS-3-VLV-FG-101-3-1B-01	3" BALL VALVE MANUAL	INS			721-WUN-60-05-006	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0503 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS FILTER

ID LEVEL 7 0503MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK F-302

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0503MT-F-302	FUEL GAS FILTER	STA			721-WUN-60-05-006	A

ID LEVEL 5 05 REMARK :
SECTION/SYSTEM FUEL GAS SYSTEM

ID LEVEL 6 0503 REMARK :
EQUIPMENT CLASS/UNIT FUEL GAS FILTER

ID LEVEL 7 0503PR REMARK :
SUBUNIT/SUBFUNCTION PRESSURE RELIEF F-302

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0503PR-PSV-302	PRESSURE SAFETY VALVE	INS			721-WUN-60-05-006	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0601 REMARK :
EQUIPMENT CLASS/UNIT AIR COMPRESSOR

ID LEVEL 7 0601CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT C-310B

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0601CM-IA-002-1-1B	1" PIPING	PIP	IA-032-1-1B	IA-003-1-1B	721-WUN-PI-122	A
0601CM-IA-004-1-1B	1" PIPING	PIP	IA-003-1-1B	IA-005-1-1B	721-WUN-PI-122	A
0601CM-IA-005-1-1B	1" PIPING	PIP	IA-004-1-1B	LOCAL PANEL	721-WUN-PI-122	A
0601CM-IA-006-1-1B	1" PIPING	PIP	LOCAL PANEL	IA-007-1-1B	721-WUN-PI-122	A
0601CM-IA-003-1-1B	1" PIPING	PIP	IA-002-1-1B	IA-004-1-1B	721-WUN-PI-122	A
0601CM-PA-001-2-1B	2" PIPING	PIP	IA-MNF-001	PLANT AIR	721-WUN-PI-122	A
0601CM-IA-028-2-1B	2" PIPING	PIP	IA-MNF-001	IA-009-1-1B	721-WUN-PI-122	A
0601CM-IA-008-2-1B	2" PIPING	PIP	IA-032-1-1B	IA-MNF-001	721-WUN-PI-122	A
0601CM-IA-032-1-1B	1" PIPING	PIP	C-310B	IA-002-1-1B	721-WUN-PI-122	A
0601CM-IA-009-1-1B	1" PIPING	PIP	FROM PORTABLE AIR COMPRESSOR	IA-028-1-1B	721-WUN-PI-122	A
0601CM-IA-007-1-1B	1" PIPING	PIP	IA-006-1-1B	C-310B	721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0601 REMARK :
EQUIPMENT CLASS/UNIT AIR COMPRESSOR

ID LEVEL 7 0601MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN C-310B

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0601MS-2-VLV-IA-028-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0601MS-1-VLV-IA-001-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0601 REMARK :
EQUIPMENT CLASS/UNIT AIR COMPRESSOR

ID LEVEL 7 0601MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK C-310B

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0601MT-C-310B	AIR COMPRESSOR	ROT			721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0601** REMARK :
EQUIPMENT CLASS/UNIT	**AIR COMPRESSOR**
ID LEVEL 7	**0601OF** REMARK :
SUBUNIT/SUBFUNCTION	**OTHER FUNCTION C-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0601OF-2x1-RDC-IA-028-1-1B	2"x1" REDUCER	INS			721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0602** REMARK :
EQUIPMENT CLASS/UNIT	**AIR RECEIVER**
ID LEVEL 7	**0602CM** REMARK :
SUBUNIT/SUBFUNCTION	**CONTAINMENT M-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602CM-IA-025-1-1B	1" PIPING	PIP	V-310	IA-027-1-1B	721-WUN-PI-122	A
0602CM-IA-026-1-1B	1" PIPING	PIP	IA-025-1-1B	1A-001-1-1B	721-WUN-PI-122	A
0602CM-IA-029-1-1B	1' PIPING	PIP	V-310	-	721-WUN-PI-122	A
0602CM-IA-030-1-1B	1" PIPING	PIP	IA-027-1-1B	IA-026-1-1B	721-WUN-PI-122	A
0602CM-IA-027-1-1B	1" PIPING	PIP	IA-025-1-1B	IA-030-1-1B	721-WUN-PI-122	A
0602CM-IA-024-1-1B	1" PIPING	PIP	IA-022-1-1B	IA-031-1-1B	721-WUN-PI-122	A
0602CM-IA-001-1-1B	1" PIPING	PIP	IA-026-1-1B	INSTRUMENT AIR	721-WUN-PI-122	A
0602CM-IA-031-1-1B	1" PIPING	PIP	IA-024-1-1B	IA-026-1-1B	721-WUN-PI-122	A
0602CM-IA-023-1-1B	1" PIPING	PIP	IA-022-1-1B	V-310	721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0602** REMARK :
EQUIPMENT CLASS/UNIT	**AIR RECEIVER**
ID LEVEL 7	**0602CN** REMARK :
SUBUNIT/SUBFUNCTION	**CONTROLLING M-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602CN-1-BPR-002	BACK PRESSURE REGULATOR	INS			721-WUN-PI-122	A
0602CN-1-BPR-001	BACK PRESSURE REGULATOR	INS			721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :

ASSET REGISTER

SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0602** REMARK :
EQUIPMENT CLASS/UNIT	**AIR RECEIVER**
ID LEVEL 7	**0602LI** REMARK :
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION M-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602LI-PT-310	PRESSURE TRANSMITTER	INS			721-WUN-PI-122	A
0602LI-PI-310	PRESSURE INDICATOR	INS			721-WUN-PI-122	A
0602LI-PI-311	PRESSURE INDICATOR	INS			721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0602** REMARK :
EQUIPMENT CLASS/UNIT	**AIR RECEIVER**
ID LEVEL 7	**0602MN** REMARK :
SUBUNIT/SUBFUNCTION	**MONITORING M-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602MN-PAL-310	PRESSURE ALARM LOW	INS			721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID LEVEL 6	**0602** REMARK :
EQUIPMENT CLASS/UNIT	**AIR RECEIVER**
ID LEVEL 7	**0602MS** REMARK :
SUBUNIT/SUBFUNCTION	**MANUAL SHUTDOWN M-310B**

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602MS-1-VLV-IA-026-1-1B-01	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0602MS-1-VLV-IA-026-1-1B-02	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0602MS-1-VLV-IA-027-1-1B-01	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0602MS-1-VLV-IA-027-1-1B-02	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0602MS-1-VLV-IA-029-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0602MS-0.75-VLV-IA-026-1-1B	0.75" BALL VALVE MANUAL	INS			721-WUN-PI-122	A

ID LEVEL 5	**06** REMARK :
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**

ASSET REGISTER

ID LEVEL 6	0602	REMARK :	
EQUIPMENT CLASS/UNIT	AIR RECEIVER		
ID LEVEL 7	0602MT	REMARK :	
SUBUNIT/SUBFUNCTION	MAIN TASK M-310B		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602MT-V-310	AIR RECEIVER	STA			721-WUN-PI-122	A

ID LEVEL 5	06	REMARK :	
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM		
ID LEVEL 6	0602	REMARK :	
EQUIPMENT CLASS/UNIT	AIR RECEIVER		
ID LEVEL 7	0602PR	REMARK :	
SUBUNIT/SUBFUNCTION	PRESSURE RELIEF M-310B		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0602PR-PSV-311	PRESSURE SAVETY VALVE	INS			721-WUN-PI-122	A

ID LEVEL 5	06	REMARK :	
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM		
ID LEVEL 6	0603	REMARK :	
EQUIPMENT CLASS/UNIT	PRE FILTER A		
ID LEVEL 7	0603CM	REMARK :	
SUBUNIT/SUBFUNCTION	CONTAINMENT F-PRF-01		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0603CM-IA-010-1-1B	1" PIPING	PIP	IA-MNF-001	IA-011-1-1B	721-WUN-PI-122	A
0603CM-IA-015-1-1B	1" PIPING	PIP	IA-014-1-1B	IA-011-1-1B	721-WUN-PI-122	A
0603CM-IA-014-1-1B	1" PIPING	PIP	IA-PRF-001	IA-015-1-1B	721-WUN-PI-122	A
0603CM-IA-013-1-1B	1" PIPING	PIP	IA-012-1-1B	IA-PRF-001	721-WUN-PI-122	A
0603CM-IA-011-1-1B	1" PIPING	PIP	IA-010-1-1B	IA-016-1-1B	721-WUN-PI-122	A
0603CM-IA-DRF-001	DRYER REFRIGRAN	PIP			721-WUN-PI-122	A
0603CM-IA-016-1-1B	1" PIPING	PIP	IA-015-1-1B	IA-DRF	721-WUN-PI-122	A
0603CM-IA-012-1-1B	1" PIPING	PIP	IA-011-1-1B	IA-013-1-1B	721-WUN-PI-122	A

ID LEVEL 5	06	REMARK :	
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM		
ID LEVEL 6	0603	REMARK :	
EQUIPMENT CLASS/UNIT	PRE FILTER A		

ASSET REGISTER

ID LEVEL 7 0603MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN F-PRF-01

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0603MS-1-VLV-IA-011-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0603MS-1-VLV-IA-014-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0603MS-1-VLV-IA-013-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0603 REMARK :
EQUIPMENT CLASS/UNIT PRE FILTER A

ID LEVEL 7 0603MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK F-PRF-01

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0603MT-F-PRF-01	PRE FILTER 1	STA			721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0604 REMARK :
EQUIPMENT CLASS/UNIT PRE FILTER B

ID LEVEL 7 0604CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT F-PRF-02

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0604CM-IA-020-1-1B	1" PIPING	PIP	IA-019-1-1B	IA-PRF-002	721-WUN-PI-122	A
0604CM-IA-021-1-1B	1" PIPING	PIP	IA-PRF-002	IA-022-1-1B	721-WUN-PI-122	A
0604CM-IA-022-1-1B	1" PIPING	PIP	IA-021-1-1B	IA-024-1-1B	721-WUN-PI-122	A
0604CM-IA-017-1-1B	1" PIPING	PIP	IA-DRF	IA-018-1-1B	721-WUN-PI-122	A
0604CM-IA-018-1-1B	1" PIPING	PIP	IA-017-1-1B	IA-019-1-1B	721-WUN-PI-122	A
0604CM-IA-019-1-1B	1" PIPING	PIP	IA-018-1-1B	IA-022-1-1B	721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0604 REMARK :
EQUIPMENT CLASS/UNIT PRE FILTER B

ASSET REGISTER

ID LEVEL 7 0604MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN F-PRF-02

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0604MS-1-VLV-IA-020-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0604MS-1-VLV-IA-021-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A
0604MS-1-VLV-IA-022-1-1B	1" BALL VALVE MANUAL	INS			721-WUN-PI-122	A

ID LEVEL 5 06 REMARK :
SECTION/SYSTEM INSTRUMENT AIR SYSTEM

ID LEVEL 6 0604 REMARK :
EQUIPMENT CLASS/UNIT PRE FILTER B

ID LEVEL 7 0604MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK F-PRF-02

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0604MT-F-PRF-02	PRE FILTER 2	STA			721-WUN-PI-122	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0701 REMARK :
EQUIPMENT CLASS/UNIT KNOCK OUT DRUM

ID LEVEL 7 0701CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT V-120

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0701CM-DL-002-2-1B	2" PIPING	PIP	V-120	EVAPORATION TANK	721-WUN-25-05-004	A
0701CM-FL-008-12-1B	12" PIPING	PIP	FLARE HEADER	V-120	721-WUN-25-05-004	A
0701CM-PL-012-2-1B	2" PIPING	PIP	V-120	PL-014-2-1B	721-WUN-25-05-004	A
0701CM-DL-001-2-1B	2" PIPING	PIP	LIQUID TANK	V-120	721-WUN-25-05-004	A
0701CM-FL-012-12-1B-01	12" PIPING	PIP	V-120	FLARE STACK	#N/A	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0701 REMARK :
EQUIPMENT CLASS/UNIT KNOCK OUT DRUM

ID LEVEL 7 0701MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN V-120

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED

0701MS-2-VLV-PL-012-2-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0701MS-2-VLV-DL-002-2-1B	2" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0701MS-2-VLV-PL-012-2-1B-01	2" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0701 REMARK :
EQUIPMENT CLASS/UNIT KNOCK OUT DRUM

ID LEVEL 7 0701MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK V-120

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0701MT-V-120	KNOCK OUT DRUM	STA			721-WUN-25-05-004	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0702 REMARK :
EQUIPMENT CLASS/UNIT KNOCK OUT DRUM PUMP

ID LEVEL 7 0702CM REMARK :
SUBUNIT/SUBFUNCTION CONTAINMENT P-160A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0702CM-DL-105-2-1B	2" PIPING	PIP	KO DRUM	PL-014-2-1B	721-WUN-25-05-004	A
0702CM-PL-013-2-1B	2" PIPING	PIP	P-160A	LIQUID TANK	721-WUN-25-05-004	A
0702CM-PL-014-2-1B	2" PIPING	PIP	DRAIN TANK	P-160A	721-WUN-25-05-004	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0702 REMARK :
EQUIPMENT CLASS/UNIT KNOCK OUT DRUM PUMP

ID LEVEL 7 0702MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN P-160A

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0702MS-2-VLV-PL-013-2-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A
0702MS-2-VLV-PL-014-2-1B-01	2" CHECK VALVE MANUAL	INS			721-WUN-25-05-004	A
0702MS-2-VLV-PL-013-2-1B-01	2" CHECK VALVE MANUAL	INS			721-WUN-25-05-004	A
0702MS-2-VLV-PL-014-2-1B-02	2" BALL VALVE MANUAL	INS			721-WUN-25-05-004	A

ID LEVEL 5 07 REMARK :

ASSET REGISTER

SECTION/SYSTEM	**FLARE SYSTEM**		
ID LEVEL 6	**0702**	REMARK :	
EQUIPMENT CLASS/UNIT	**KNOCK OUT DRUM PUMP**		
ID LEVEL 7	**0702MT**	REMARK :	
SUBUNIT/SUBFUNCTION	**MAIN TASK P-160A**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0702MT-P-160A	KNOCK OUT DRUM PUMP	ROT			721-WUN-25-05-004	A

ID LEVEL 5	**07**	REMARK :	
SECTION/SYSTEM	**FLARE SYSTEM**		
ID LEVEL 6	**0703**	REMARK :	
EQUIPMENT CLASS/UNIT	**GROUND FLARE**		
ID LEVEL 7	**0703CM**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTAINMENT FL-330**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703CM-FG-009-1-1B	1" PIPING	PIP	FG-009-1.1/3-1B	FL-330	721-WUN-PI-118	A
0703CM-FG-009-1.1/3-1B	1.1/3" PIPING	PIP	FUEL GAS HEADER	FG-009-1-1B	721-WUN-PI-118	A
0703CM-FL-012-12-1B-02	12" PIPING	PIP	KO DRUM (V-120B)	FL-330	721-WUN-PI-118	A

ID LEVEL 5	**07**	REMARK :	
SECTION/SYSTEM	**FLARE SYSTEM**		
ID LEVEL 6	**0703**	REMARK :	
EQUIPMENT CLASS/UNIT	**GROUND FLARE**		
ID LEVEL 7	**0703CN**	REMARK :	
SUBUNIT/SUBFUNCTION	**CONTROLLING FL-330**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703CN-1-BPR-FG-009-1-1B-02	BACK PRESSURE REGULATOR	INS			721-WUN-PI-118	A
0703CN-1-BPR-FG-009-1-1B-01	BACK PRESSURE REGULATOR	INS			721-WUN-PI-118	A

ID LEVEL 5	**07**	REMARK :	
SECTION/SYSTEM	**FLARE SYSTEM**		
ID LEVEL 6	**0703**	REMARK :	
EQUIPMENT CLASS/UNIT	**GROUND FLARE**		
ID LEVEL 7	**0703LI**	REMARK :	
SUBUNIT/SUBFUNCTION	**LOCAL INDICATION FL-330**		

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703LI-PI-321B	PRESSURE INDICATOR	INS			721-WUN-PI-118	A

0703LI-PI-321A	PRESSURE INDICATOR	INS			721-WUN-PI-118	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0703 REMARK :
EQUIPMENT CLASS/UNIT GROUND FLARE

ID LEVEL 7 0703MS REMARK :
SUBUNIT/SUBFUNCTION MANUAL SHUTDOWN FL-330

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703MS-1-VLV-FG-009-1-1B-06	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-08	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-05	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-04	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-03	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-02	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-07	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A
0703MS-1-VLV-FG-009-1-1B-01	1" BALL VALVE MANUAL	INS			721-WUN-PI-118	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0703 REMARK :
EQUIPMENT CLASS/UNIT GROUND FLARE

ID LEVEL 7 0703MT REMARK :
SUBUNIT/SUBFUNCTION MAIN TASK FL-330

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703MT-FL-330	GROUND FLARE	STA			721-WUN-PI-118	A

ID LEVEL 5 07 REMARK :
SECTION/SYSTEM FLARE SYSTEM

ID LEVEL 6 0703 REMARK :
EQUIPMENT CLASS/UNIT GROUND FLARE

ID LEVEL 7 0703OF REMARK :
SUBUNIT/SUBFUNCTION OTHER FUNCTION FL-330

ID LEVEL 8 COMPONENTS

COMPONENT TAG	COMPONENT NAME	TYPE	FROM	TO	PID	RED
0703OF-12x6-RDC-FL-012-12-1B	12"x6" REDUCER	INS			721-WUN-PI-118	A

ASSET REGISTER

▶	0703OF-1.1/3x1-RDC-FG-009-1.1/3-1B	1.1/3"x1" REDUCER	INS			721-WUN-PI-118	A

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EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	01
SECTION/SYSTEM	SEPARATING SYSTEM
ID Level 6	0101
EQUIPMENT TAG	V-110B
EQUIPMENT NAME	LP SEPARATOR
ID level 7	0101CM
SUBUNIT	CONTAINMENT V-110B

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101CM-PG-092-6-6B	6" PIPING	Transfer fluid from MANIFOLD WUNUT 1 to PG-103-16-6B	Unable to transfer fluid from MANIFOLD WUNUT 1 to PG-103-16-6B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PL-101-2-3B	2" PIPING	Transfer fluid from V-110B to CLOSED DRAIN HEADER	Unable to transfer fluid from V-110B to CLOSED DRAIN HEADER accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101CM-PG-114-6-3B-01	6" PIPING	Transfer fluid from PG-104-16-3B to HP SEPARATOR INLET	Unable to transfer fluid from PG-104-16-3B to HP SEPARATOR INLET accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-104-16-3B	16" PIPING	Transfer fluid from V-110B to COMPRESSOR SUCTION HEADER	Unable to transfer fluid from V-110B to COMPRESSOR SUCTION HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-103B-2-3B	2" PIPING	Transfer fluid from PG-103A-6-3B to FL-101-8-1B	Unable to transfer fluid from PG-103A-6-3B to FL-101-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-103A-6-3B	6" PIPING	Transfer fluid from V-110B to PG-103B-2-3B	Unable to transfer fluid from V-110B to PG-103B-2-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

0101CM-PG-103-16-3B-02	16" PIPING	Transfer fluid from PG-102-16-6B to PG-103-16-3B-01	Unable to transfer fluid from PG-102-16-6B to PG-103-16-3B-01 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-102-16-6B	PG-078-8-6B	Transfer fluid from PG-103-16-3B-02 to 0	Unable to transfer fluid from PG-103-16-3B-02 to 0 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0101CM-PG-091-8-6B	8" PIPING	Transfer fluid from LP EAST TRUNKLINE to PG-102-16-6B	Unable to transfer fluid from LP EAST TRUNKLINE to PG-102-16-6B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-090-8-6B	8" PIPING	Transfer fluid from HP WEST TRUNKLINE to PG-102-16-6B	Unable to transfer fluid from HP WEST TRUNKLINE to PG-102-16-6B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-078-8-6B	8" PIPING	Transfer fluid from LP EAST TRUNKLINE to PG-103-16-6B	Unable to transfer fluid from LP EAST TRUNKLINE to PG-103-16-6B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-PG-053-8-6B	8" PIPING	Transfer fluid from HP WEST TRUNKLINE to PG-102-16-6B	Unable to transfer fluid from HP WEST TRUNKLINE to PG-102-16-6B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0101CM-FL-101A-6-1B	6" PIPING	Transfer fluid from HP FLARE HEADER to FL-101-8-1B	Unable to transfer fluid from HP FLARE HEADER to FL-101-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0101CM-FL-101-8-1B	8" PIPING	Transfer fluid from PG-103B-2-3B to LP FLARE HEADER	Unable to transfer fluid from PG-103B-2-3B to LP FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101CM-DL-101-2-1B	2" PIPING	Transfer fluid from V-110B to CLOSED DRAIN HEADER	Unable to transfer fluid from V-110B to CLOSED DRAIN HEADER accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0101CM-PG-103-16-3B-01	16" PIPING	Transfer fluid from PG-103-16-3B-02 to V-110B	Unable to transfer fluid from PG-103-16-3B-02 to V-110B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101CN**
SUBUNIT	**CONTROLLING V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101CN-PCV-110B	2" PRESSURE CONTROL VALVE	To control operating pressure at 500psig of LP Separator V-110B to Flare Header	Unable to control operating pressure at 500psig of LP Separator V-110B to Flare Header	3	Once per > 5-10 years	4	Medical Treatment With LTA	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM
0101CN-FSD-02	FIRE SHUTDOWN	To give signal to PIC-1028 to stop flow gas from LP Separator V-110B to Flare Header	Unable to give signal to PIC-1028 to stop flow gas from LP Separator V-110B to Flare Header	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0101CN-LS-110B-01	LEVEL SWITCH	To monitor level of the fluid of LP Separator V-110B	To monitor level of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	L	CM
0101CN-LS-110B-02	LEVEL SWITCH	To monitor level of the fluid of LP Separator V-110B	To monitor level of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101CN-PS-110B1	PRESSURE SWITCH	To monitor level of the fluid of LP Separator V-110B	Unable to monitor level of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101CN-PS-110B2	PRESSURE SWITCH	To monitor level of the fluid of LP Separator V-110B	Unable to monitor level of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101CN-FSD-01	FIRE SHUTDOWN	To give signal to SDV-110B to stop flow gas to LP Separator V-110B	Unable to give signal to SDV-110B to stop flow gas to LP Separator V-110B	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0101CN-ZSC-110B	POSITION SWITCH CLOSED	give signal to ZS-110B to positioning switch	give signal to ZS-110B to positioning switch	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	2	Gas leak (0,5-<1 MMSCFD)	L	CM
0101CN-LCV-110B	2" LEVEL CONTROL VALVE	To control the liquid level from LP Separator V-110B to Closed Drain	Unable to control the liquid level from LP Separator V-110B to Closed Drain	3	Once per > 5-10 years	4	Medical Treatment With LTA	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM
0101CN-ZS-110B	POSITION SWITCH	To positioning of switch close/open to SDV-110B	Unable to positioning of switch close/open to SDV-110B	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	2	Gas leak (0,5-<1 MMSCFD)	M	PM IF APPROPRIATE
0101CN-ZSO-110B	POSITION SWITCH OPEN	give signal to ZS-110B to positioning switch	give signal to ZS-110B to positioning switch	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	2	Gas leak (0,5-<1 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7 0101LI

SUBUNIT LOCAL INDICATION V-110B

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101LI-LG-110B	LEVEL GAUGE	To provide local level indication of the fluid of LP Separator V-110B	Unable to provide local level indication of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-FE-110B	FLOW ELEMENT	Provide local indication of flow	Unable to Provide local indication of flow	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-FIT-110B	FLOW INDICATING TRANSMITTER	To monitor gas outlet flow from LP Separator V-110B to Compressor Suction Header	Unable to monitor gas outlet flow from LP Separator V-110B to Compressor Suction Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-FQI-V-110B	FLOW QUANTITY INDICATOR	To provide local indication of flow quantity outlet gas flow from LP Separator V-110B to Compressor suction	Unable to provide local indication of flow quantity outlet gas flow from LP Separator V-110B to	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-I/P-V-110B-02	TRANSDUCER	To monitor liquid flow from LP Separator V-110B to Closed Drain Header	Unable to monitor liquid flow from LP Separator V-110B to Closed Drain Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-I/P-V-110B-01	TRANSDUCER	To monitor gas flow from LP Separator V-110B to Flare Header	Unable to monitor gas flow from LP Separator V-110B to Flare Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-LICA-110B	LEVEL INDICATOR CONTROLLER	To provide local level indication of the fluid of LP Separator V-110B	Unable to provide local level indication of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101LI-LT-110B	LEVEL TRANSMITTER	To monitor level of the fluid of LP Separator V-110B	Unable to monitor level of the fluid of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0101LI-PT-110B	PRESSURE TRANSMITTER	To monitor gas outlet pressure from LP Separator V-110B to Recycle Header	Unable to monitor gas outlet pressure from LP Separator V-110B to Recycle Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-PIC-102B	PRESSURE INDICATING	To provide local indication of the LP Separator V-110B gas outlet pressure	Unable to provide local indication of the LP Separator V-110B gas outlet pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101LI-PI-110B	PRESSURE INDICATOR	To provide local indication of the LP Separator V-110B gas pressure	Unable to provide local indication of the LP Separator V-110B gas pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101MN**
SUBUNIT	**MONITORING V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101MN-PA-110B1	PRESSURE ALARM	To give information or warning about pressure in LP Separator V-110B too high or low	Unable to give information or warning about pressure in LP Separator V-110B too high or low	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MN-TI-110B	TEMPERATURE INDICATOR	To provide local indication of the LP Separator V-110B gas temperature	Unable to provide local indication of the LP Separator V-110B gas temperature	4	Once Per > 1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101MN-FR-110B	FLOW RECORDER	To record gas flow of Custody LP Separator V-110B	Unable to record gas flow of Custody LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MN-PR-110B	PRESSURE RECORDER	To record gas pressure of LP Separator V-110B	Unable to record gas pressure of LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MN-TR-110B	TEMPERATURE RECORDER	To record gas temperature of Custody LP Separator V-110B	Unable to record gas temperature of LP Separator V-110B	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MN-PSD	PROCESS SHUTDOWN	To give signal to SDV-110B to stop flow gas to LP Separator V-110B	Unable to give signal to SDV-110B to stop flow gas to LP Separator V-110B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101MS**
SUBUNIT	**MANUAL SHUTDOWN V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101MS-2-VLV-V-110B-04	2" BALL VALVE MANUAL	Take action for the fluid in V-110B	Unable to take action for the fluid in V-110B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-V-110B-03	2" BALL VALVE MANUAL	Take action for the fluid in V-110B	Unable to take action for the fluid in V-110B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101MS-2-VLV-V-110B-02	2" BALL VALVE MANUAL	Take action for the fluid in V-110B	Unable to take action for the fluid in V-110B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-V-110B-01	2" BALL VALVE MANUAL	Take action for the fluid in V-110B	Unable to take action for the fluid in V-110B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PL-101-2-3B-04	2" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-04 piping	Unable to control the fluid in PL-101-2-3B-04 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-6-VLV-PG-092-6-6B	6" BALL VALVE MANUAL	To control the fluid in PG-092-6-6B piping	Unable to control the fluid in PG-092-6-6B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PL-101-2-3B-05	2" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-05 piping	Unable to control the fluid in PL-101-2-3B-05 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-6-VLV-PG-103A-6-3B	6" BALL VALVE MANUAL	To control the fluid in PG-103A-6-3B piping	Unable to control the fluid in PG-103A-6-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-6-VLV-PG-114-6-3B-01	6" CHECK VALVE	To control the fluid in PG-114-6-3B-01 piping	Unable to control the fluid in PG-114-6-3B-01 piping on demand	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM
0101MS-6-VLV-PG-114-6-3B-02	6" BALL VALVE MANUAL	To control the fluid in PG-114-6-3B-02 piping	Unable to control the fluid in PG-114-6-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

0101MS-8-VLV-FL-101-8-1B	8" BALL VALVE MANUAL	To control the fluid in FL-101-8-1B piping	Unable to control the fluid in 3 FL-101-8-1B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-8-VLV-PG-053-8-6B	8" BALL VALVE MANUAL	To control the fluid in PG-053-8-6B piping	Unable to control the fluid in 3 PG-053-8-6B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PL-101-2-3B-03	2" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-03	Unable to control the fluid in 3 PL-101-2-3B-03	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-8-VLV-PG-090-8-6B	8" BALL VALVE MANUAL	To control the fluid in PG-090-8-6B piping	Unable to control the fluid in 3 PG-090-8-6B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-8-VLV-PG-078-8-6B	8" BALL VALVE MANUAL	To control the fluid in PG-078-8-6B piping	Unable to control the fluid in 3 PG-078-8-6B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-DL-101-2-1B-01	2" BALL VALVE MANUAL	To control the fluid in DL-101-2-1B-01 piping	Unable to control the fluid in 3 DL-101-2-1B-01 piping on demand	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-0.75-VLV-PG-102-16-6B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-102-16-6B-02 piping	Unable to control the fluid in 3 PG-102-16-6B-02 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-8-VLV-PG-091-8-6B	8" BALL VALVE MANUAL	To control the fluid in PG-091-8-6B piping	Unable to control the fluid in 3 PG-091-8-6B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101MS-0.75-VLV-DL-101-2-1B	3/4" GLOBE VALVE MANUAL	To control the fluid in DL-101-2-1B piping	Unable to control the fluid in DL-101-2-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-0.75-VLV-PL-101-2-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-01 piping	Unable to control the fluid in PL-101-2-3B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-0.75-VLV-PL-101-2-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-02 piping	Unable to control the fluid in PL-101-2-3B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-0.75-VLV-PG-102-16-6B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-102-16-6B-01 piping	Unable to control the fluid in PG-102-16-6B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-16-VLV-PG-104-16-3B-02	16" BALL VALVE MANUAL	To control the fluid in PG-104-16-3B-02 piping	Unable to control the fluid in PG-104-16-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PL-101-2-3B-02	2" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-02 piping	Unable to control the fluid in PL-101-2-3B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-2-VLV-DL-101-2-1B-02	2" BALL VALVE MANUAL	To control the fluid in DL-101-2-1B-02 piping	Unable to control the fluid in DL-101-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-2-VLV-PG-103-16-3B-01	2" BALL VALVE MANUAL	To control the fluid in PG-103-16-3B-01 piping	Unable to control the fluid in PG-103-16-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0101MS-2-VLV-PG-103A-6-3B	2" GLOBE VALVE MANUAL	To control the fluid in PG-103A-6-3B	Unable to control the fluid in PG-103A-6-3B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PG-103B-2-3B-01	2" BALL VALVE MANUAL	To control the fluid in PG-103B-2-3B-01 piping	Unable to control the fluid in PG-103B-2-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PG-103B-2-3B-02	2" BALL VALVE MANUAL	To control the fluid in PG-103B-2-3B-02 piping	Unable to control the fluid in PG-103B-2-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0101MS-2-VLV-PL-101-2-3B-01	2" BALL VALVE MANUAL	To control the fluid in PL-101-2-3B-01 piping	Unable to control the fluid in PL-101-2-3B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101MS-16-VLV-PG-104-16-3B-01	16" CHECK VALVE	To control the fluid in PG-104-16-3B-01 piping	Unable to control the fluid in PG-104-16-3B-01 piping on demand	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101MT**
SUBUNIT	**MAIN TASK V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101MT-V-110B	LP SEPARATOR	Separating natural gas from Fluid and Other Contaminant from Gas Well	Unable to Separate natural gas from Fluid and Other Contaminant from Gas Well	3	Once per > 5-10 years	4	Medical Treatment With LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	5	Gas Leak (>10 MMSCFD)	H	PM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101OF**
SUBUNIT	**OTHER FUNCTION V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101OF-3x2-RDC-PG-103B-2-3B	3"x2" REDUCER	Transfer fluid in PG-103B-2-3B	Unable to transfer fluid in PG-103B-2-3B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0101OF-2x1-RDC-PL-101-2-3B-02	2"x1" REDUCER	Transfer fluid in PL-101-2-3B-02	Unable to transfer fluid in PL-101-2-3B-02	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101OF-2x1-RDC-PL-101-2-3B-01	2"x1" REDUCER	Transfer fluid in PL-101-2-3B-01	Unable to transfer fluid in PL-101-2-3B-01	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0101OF-TW-110B	THERMOWELL	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0101PR**
SUBUNIT	**PRESSURE RELIEF V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101PR-PSV-110B	PRESSURE SAFETY VALVE	To provide overpressure protection for the LP Separator V-110B by relieving at 600 psig for fire	Unable to provide overpressure protection for the LP Separator V-110B by relieving at 600 psig for fire	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	H	PM

ID LEVEL 5	**01**
SECTION/SYSTEM	**SEPARATING SYSTEM**
ID Level 6	**0101**
EQUIPMENT TAG	**V-110B**
EQUIPMENT NAME	**LP SEPARATOR**
ID level 7	**0101SP**
SUBUNIT	**SHUTDOWN PROCESS V-110B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0101SP-SDV-110B	SHUTDOWN VALVE	To stop the flow of a liquid hydrocarbon from manifold to LP Separator V-110B	Unable to stop the flow of a liquid hydrocarbon from manifold to LP Separator V-110B	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7 0201CM

SUBUNIT CONTAINMENT V-210

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201CM-PG-017-10-3B	10" PIPING	Transfer fluid from V-210 to V-220	Unable to transfer fluid from V-210 to V-220 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0201CM-PG-016-8-3B	8" PIPING	Transfer fluid from PRODUCTION SEPARATOR (V-110) to V-210	Unable to transfer fluid from PRODUCTION SEPARATOR (V-110) to V-210 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0201CM-FL-013-6-1B	6" PIPING	Transfer fluid from V-210 to FL-032-12-1B	Unable to transfer fluid from V-210 to FL-032-12-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	L	CM
0201CM-PG-118-10-3B-01	10" PIPING	Transfer fluid from GAS COMPRESSOR DISCH. HEADER to PG-119-12-3B	Unable to transfer fluid from GAS COMPRESSOR DISCH. HEADER to PG-119-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0201CM-PG-119-12-3B	8" PIPING	Transfer fluid from PG-118-10-3B to PG-120-8-3B	Unable to transfer fluid from PG-118-10-3B to PG-120-8-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0201CM-PG-120-8-3B	8" PIPING	Transfer fluid from PG-119-12-3B to V-200	Unable to transfer fluid from PG-119-12-3B to V-200 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0201CM-PG-122-8-3B	8" PIPING	Transfer fluid from PG-119-12-3B to PG-124-12-3B	Unable to transfer fluid from PG-119-12-3B to PG-124-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0201CM-GL-033-2-3B	2" PIPING	Transfer fluid from V-210 to FLASH SEPARATOR (V-280)	Unable to transfer fluid from V-210 to FLASH SEPARATOR (V-280) accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201CN**
SUBUNIT	**CONTROLLING V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201CN-FCV-501-01	8" FLOW CONTROL VALVE	To control flow from PG-119-12-3B to PG-124-12-3B	Unable to control flow from PG-119-12-3B to PG-124-12-3B	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	M	PM IF APPROPRIATE
0201CN-LC-211	LEVEL CONTROLLER	send signal of fluid level at Glycol Contactor V-210 to LCV-211	Unable to send signal of fluid level at Glycol Contactor V-210 to LCV-211	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201CN-LC-212	LEVEL CONTROLLER	send signal of fluid level at Glycol Contactor V-210 to LCV-212	send signal of fluid level at Glycol Contactor V-210 to LCV-2112	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201CN-LSH-211	LEVEL SWITCH HIGH	To prevent high level of glycol from Glycol Contactor V-210	Unable to prevent high level of glycol from Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201CN-LSL-211	LEVEL SWITCH LOW	To prevent low level of glycol from Glycol Contactor V-210	Unable to prevent low level of glycol from Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0201CN-LCV-212	2" LEVEL CONTROLLER VALVE	To control the liquid level in Glycol Contactor V-210 lower vessel compartment	Unable to control the liquid level in Glycol Contactor V-210 lower vessel compartment	3	Once per > 5-10 years	4	Medical Treatment With LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	H	PM
0201CN-LCV-211	2" LEVEL CONTROL VALVE	To control the liquid level in Glycol Contactor V-210 upper vessel compartment	Unable to control the liquid level in Glycol Contactor V-210 upper vessel compartment	3	Once per > 5-10 years	4	Medical Treatment With LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201LI**
SUBUNIT	**LOCAL INDICATION V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201LI-I/P-211	TRANSDUCER	To monitor air to glycol contactor V-210	Unable to monitor air to glycol contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-I/P-212	TRANSDUCER	To monitor air to glycol contactor V-210	Unable to monitor air to glycol contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-LG-211	LEVEL GAUGE	To provide local level indication of the fluid from Glycol Contactor V-210	Unable to provide local level indication of the fluid from Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-LG-212	LEVEL GAUGE	To provide local level indication of the fluid from Glycol Contactor V-210	Unable to provide local level indication of the fluid from Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0201LI-LIC-211	LEVEL INDICATOR CONTROLLER	To provide local indication of the Glycol Contactor V-210 glycol level	Unable to provide local indication of the Glycol Contactor V-210 glycol level	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-PI-211	PRESSURE INDICATOR	To provide local indication of the Glycol Contactor V-210 pressure	Unable to provide local indication of the Glycol Contactor V-210 pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-LIC-212	LEVEL INDICATOR CONTROLLER	To provide local indication of the Glycol Contactor V-210 glycol level	Unable to provide local indication of the Glycol Contactor V-210 glycol level	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-PT-211	PRESSURE TRANSMITTER	To monitor gas pressure from Glycol Contactor V-210 to Glycol Scrubber V-220	Unable to monitor gas inlet pressure to Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-I/P-FCV-501	TRANSDUCER	To monitor flow of glycol from Glycol Dehidration A V-200-01	Unable to monitor flow of glycol from Glycol Dehidration A V-200-01	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-FIC-501	FLOW INDICATING	To provide local indication of the glycol flow from glycol header PG-119-12-3B	Unable to provide local indication of the glycol flow from glycol header PG-119-12-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-FT-501	FLOW TRANSMITTER	To monitor glycol flow from glycol header PG-119-12-3B	Unable to monitor glycol flow from glycol header PG-119-12-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-PIC-501	PRESSURE INDICATING	To provide local indication of the glycol pressure from glycol header PG-119-12-3B	Unable to provide local indication of the glycol pressure from glycol header PG-119-12-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0201LI-LT-211	LEVEL TRANSMITTER	To monitor fluid level of Glycol Contactor V-210	Unable to monitor fluid level of Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201LI-LT-212	LEVEL TRANSMITTER	To monitor fluid level to Glycol Contactor V-210	Unable to monitor gas inlet level to Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201MN**
SUBUNIT	**MONITORING V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201MN-LAL-211	LEVEL ALARM LOW	To give information or warning about high level of glycol in Glycol Contactor V-210	Unable to give information for warning about high level of glycol in Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MN-LAH-211	LEVEL ALARM HIGH	To give information or warning about high level of liquid in Glycol Contactor V-210	Unable to give information for warning about high level of liquid in Glycol Contactor V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MN-FY-501	FLOW CONVERTER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201MS**
SUBUNIT	**MANUAL SHUTDOWN V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201MS-8-VLV-PG-122-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-122-8-3B-01 piping	Unable to control the fluid in PG-122-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-2-VLV-GL-033-2-3B-01	2" GATE VALVE MANUAL	To control the fluid in GL-033-2-3B-01 piping	Unable to control the fluid in GL-033-2-3B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-2-VLV-GL-033-2-3B-02	2" GATE VALVE MANUAL	To control the fluid in GL-033-2-3B-02 piping	Unable to control the fluid in GL-033-2-3B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-2-VLV-V-210-01	2" BALL VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-2-VLV-V-210-02	2" GATE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-4-VLV-V-210	4" BALL VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0201MS-6-VLV-FL-013-6-1B	6" BALL VALVE	To control the fluid in FL-013-6-1B piping	Unable to control the fluid in FL-013-6-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.75-VLV-PG-119-12-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-119-12-3B-01 piping	Unable to control the fluid in PG-119-12-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.75-VLV-PG-119-12-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-119-12-3B-02 piping	Unable to control the fluid in PG-119-12-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.75-VLV-PG-122-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-122-8-3B-01 piping	Unable to control the fluid in PG-122-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.75-VLV-PG-122-8-3B-02	8" BALL VALVE MANUAL	To control the fluid in PG-122-8-3B-02 piping	Unable to control the fluid in PG-122-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-8-VLV-V-200-01	8" BALL VALVE MANUAL	Take action for the fluid in V-200	Unable to take action for the fluid in V-200	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-8-VLV-PG-122-8-3B-02	8" GATE VALVE MANUAL	To control the fluid in PG-122-8-3B-02 piping	Unable to control the fluid in PG-122-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-8-VLV-PG-122-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-122-8-3B-03 piping	Unable to control the fluid in PG-122-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

0201MS-0.5-VLV-01	1/2" GATE VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-0.5-VLV-V-210-01	1/2" GATE VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.5-VLV-V-210-02	1/2" GATE VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-0.75-VLV-V-210-01	3/4" ANGLE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-0.75-VLV-V-210-02	3/4" ANGLE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-1.5-VLV-01	1 1/2" GATE VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-1.5-VLV-02	1 1/2" GATE VALVE MANUAL	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201MS-1.5-VLV-V-210-01	1 1/2" GATE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0201MS-1.5-VLV-V-210-02	1 1/2" GATE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0201MS-1-VLV-01	1" GATE VALVE	Take action of fluid in V-210	Unable to take action of fluid in V-210	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201MT**
SUBUNIT	**MAIN TASK V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201MT-V-210	GLYCOL CONTACTOR	Separating Fluid between gas and Vapour Air from LP Separator V-110B	Unable to separate Fluid between gas and Vapour Air from LP Separator V-110B	4	Once Per >1- 5 years	4	Medical Treatment With LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201OF**
SUBUNIT	**OTHER FUNCTION V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

0201OF-RO-211	RESTRICTION ORIFICE	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0201OF-1x1.5-RDC-01	1"x1 1/2" REDUCER	Transfer fluid in V-210	Unable to transfer fluid in V-210	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0201**
EQUIPMENT TAG	**V-210**
EQUIPMENT NAME	**GLYCOL CONTACTOR**
ID level 7	**0201PR**
SUBUNIT	**PRESSURE RELIEF V-210**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0201PR-PSV-211	PRESSURE SAFETY VALVE	To provide overpressure protection for the Glycol Contactor V-210 by relieving at 70 barg, for fire case	Unable to provide overpressure protection for the Glycol Contactor V-210 by relieving at 70 barg, for	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0202**
EQUIPMENT TAG	**V-220**
EQUIPMENT NAME	**GLYCOL SCRUBBER**
ID level 7	**0202CM**
SUBUNIT	**CONTAINMENT V-220**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

0202CM-FL-057-4-1B	4" PIPING	Transfer fluid from PG-124-12-3B to EXISTING FLARE HEADER	Unable to transfer fluid from PG-124-12-3B to EXISTING FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0202CM-PL-009-2-3B	2" PIPING	Transfer fluid from V-220 to LIQUID GLYCOL DRUM	Unable to transfer fluid from V-220 to LIQUID GLYCOL DRUM accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM
0202CM-PG-018-8-3B	8" PIPING	Transfer fluid from V-220 to CUSTODY FLOW METER	Unable to transfer fluid from V-220 to CUSTODY FLOW METER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0202CM-GL-018-1-3B	1" PIPING	Transfer fluid from V-220 to GL-013A-2-3B	Unable to transfer fluid from V-220 to GL-013A-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0202CM-GL-013A-2-3B	2" PIPING	Transfer fluid from GL-018-1-3B to RICH GLYCOL TO STILL COLUMN REGENERATOR	Unable to transfer fluid from GL-018-1-3B to RICH GLYCOL TO STILL COLUMN REGENERATOR accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0202CM-PG-125-12-3B-01	12" PIPING	Transfer fluid from PG-124-12-3B to COSTODY FLOW METERS	Unable to transfer fluid from PG-124-12-3B to COSTODY FLOW METERS accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0202CM-PG-123-8-3B	8" PIPING	Transfer fluid from V-200 to PG-124-12-3B	Unable to transfer fluid from V-200 to PG-124-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0202CM-FL-056-6-1B	6" PIPING	Transfer fluid from PG-124-12-3B to LP FLARE HEADER	Unable to transfer fluid from PG-124-12-3B to LP FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0202CM-FG-001-3-1B	3" PIPING	Transfer fluid from PG-124-12-3B to FUEL GAS SCRUBBER	Unable to transfer fluid from PG-124-12-3B to FUEL GAS SCRUBBER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0202CM-PG-124-12-3B	12" PIPING	Transfer fluid from PG-123-8-3B to FG-001-3-1B	Unable to transfer fluid from PG-123-8-3B to FG-001-3-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0202**
EQUIPMENT TAG	**V-220**
EQUIPMENT NAME	**GLYCOL SCRUBBER**
ID level 7	**0202CN**
SUBUNIT	**CONTROLLING V-220**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0202CN-PCV-131	6" PRESSURE CONTROL VALVE	To control operating pressure of Flare Header	Unable To control operating pressure of Flare Header	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	M	PM IF APPROPRIATE
0202CN-FCV-501-02	8" FLOW CONTROL VALVE	To control flow from Lean Amine Pumps 135-P-01 A/B to Amine Contactor 135-V-06	Unable to control flow from Lean Amine Pumps 135-P-01 A/B to Amine Contactor 135-V-06	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	5	Gas Leak (>10 MMSCFD)	H	PM
0202CN-PCV-132	4" PRESSURE CONTROL VALVE	To control operating pressure of Flare Header	Unable To control operating pressure of Flare Header	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	M	PM IF APPROPRIATE
0202CN-FCV-200	8" FLOW CONTROL VALVE	To control flow from Lean Glycol ScrubberV-220 to Custody Flow Meter	Unable To control flow from Lean Glycol ScrubberV-220 to Custody Flow Meter	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0202
EQUIPMENT TAG	V-220
EQUIPMENT NAME	GLYCOL SCRUBBER
ID level 7	0202LI
SUBUNIT	LOCAL INDICATION V-220

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0202LI-I/P-PCV-131	TRANSDUCER	To monitor flow from PG-124-12-3B to LP Flare Header	Unable to monitor flow from PG-124-12-3B to LP Flare Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-I/P-FCV-200	TRANSDUCER	To monitor flow from Glycol Dehidration B V-200-02 to PG-124-12-3B	Unable to monitor flow from Glycol Dehidration B V-200-02 to PG-124-12-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-PIC-132	PRESSURE INDICATING	To provide local indication of the FL-057-4-1B fluid pressure	Unable to provide local indication of the FL-057-4-1B fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-FT-200-V-200-02	FLOW TRANSMITTER	To monitor gas inlet flow from Glycol Dehidration B V-200-02	Unable to monitor gas inlet flow from Glycol Dehidration B V-200-02	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-LG-221	LEVEL GAUGE	To provide local level indication of the gas outlet from Glycol Scrubber V-220	Unable to provide local level indication of the gas outlet from Glycol Scrubber V-220	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-PIC-200	PRESSURE INDICATING	To provide local indication of the FL-123-8-1B fluid pressure	Unable to provide local indication of the FL-123-8-1B fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0202LI-PT-131	PRESSURE TRANSMITTER	To monitor fluid pressure FL-056-6-1B	Unable to monitor fluid pressure FL-056-6-1B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-PT-132	PRESSURE TRANSMITTER	To monitor fluid pressure FL-057-4-1B	To monitor fluid pressure FL-057-4-1B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-FIC-200	FLOW INDICATOR CONTROL	To provide flow local indication from Glycol Scrubber V-220 to Custody Flow Meter	Unable to provide local indication of the Glycol Scrubber V-220 to Custody Flow Meter	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-FT-200	FLOW TRANSMITTER	To monitor flow from Glycol Scrubber V-220 to Custody Flow Meter	Unable to monitor gas inlet flow to Glycol Scrubber V-220 to Custody Flow Meter	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-FIC-200-V-200-02	FLOW INDICATING	To provide flow local indication of the Glycol Dehidration B V-200-02	Unable to provide flow local indication of the Glycol Dehidration B V-200-02	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-PIC-131	PRESSURE INDICATING	To provide local indication of the FL-056-6-1B fluid pressure	Unable to provide local indication of the FL-056-6-1B fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-PT-200	PRESSURE TRANSMITTER	To monitor gas inlet pressure to Glycol Scrubber V-220	To monitor gas inlet pressure to Glycol Scrubber V-220	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202LI-I/P-PCV-132	TRANSDUCER	To monitor flow from PG-124-12-3B to Existing Flare Header	Unable to monitor flow from PG-124-12-3B to Existing Flare Header	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0202LI-LT-221	LEVEL TRANSMITTER	To monitor gas inlet level to Glycol Scrubber V-220	To monitor gas inlet level to Glycol Scrubber V-220	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0202
EQUIPMENT TAG	V-220
EQUIPMENT NAME	GLYCOL SCRUBBER
ID level 7	0202MN
SUBUNIT	MONITORING V-220

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0202MN-FY-200-V-200-02	FLOW CONVERTER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202MN-FY-200	FLOW CONVERTER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0202
EQUIPMENT TAG	V-220
EQUIPMENT NAME	GLYCOL SCRUBBER
ID level 7	0202MS
SUBUNIT	MANUAL SHUTDOWN V-220

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

0202MS-1.5-VLV-V-220-02	1 1/2" VALVE	Take action of fluid in V-220	Unable to take action of fluid in V-220	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.5-VLV-02	0.5" VALVE	To control the fluid in Glycol Scrubber V-220	Unable to control the fluid in Glycol Scrubber V-220	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202MS-0.75-VLV-PG-018-8-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-018-8-3B-01 piping	Unable to control the fluid in PG-018-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-PG-018-8-3B-03	3/4" BALL VALVE MANUAL	To control the fluid in PG-018-8-3B-03 piping	Unable to control the fluid in PG-018-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-PG-123-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-123-8-3B-01 piping	Unable to control the fluid in PG-123-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-124-12-3B	8" BALL VALVE MANUAL	To control the fluid in PG-124-12-3B piping	Unable to control the fluid in PG-124-12-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-1.5-VLV-V-220-01	1 1/2" VALVE	Take action of fluid in V-220	Unable to take action of fluid in V-220	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-123-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-123-8-3B-01 piping	Unable to control the fluid in PG-123-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0202MS-1-VLV-02	1" GATE VALVE MANUAL	Take action of fluid in V-220	Unable to take action of fluid in V-220	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-1-VLV-GL-018-1-3B-01	1" GATE VALVE MANUAL	To control the fluid in GL-018-1-3B-01 piping	Unable to control the fluid in GL-018-1-3B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202MS-1-VLV-GL-018-1-3B-02	1" GATE VALVE MANUAL	To control the fluid in GL-018-1-3B-02 piping	Unable to control the fluid in GL-018-1-3B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202MS-8-VLV-PG-018-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-018-8-3B-01 piping	Unable to control the fluid in PG-018-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-018-8-3B-02	8" GATE VALVE MANUAL	To control the fluid in PG-018-8-3B-02 piping	Unable to control the fluid in PG-018-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-V-220-02	3/4" ANGLE VALVE	Take action of fluid in V-220	Unable to take action of fluid in V-220	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-123-8-3B-04	8" BALL VALVE MANUAL	To control the fluid in PG-123-8-3B-04 piping	Unable to control the fluid in PG-123-8-3B-04 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-123-8-3B-02	8" GATE VALVE MANUAL	To control the fluid in PG-123-8-3B-02 piping	Unable to control the fluid in PG-123-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

0202MS-6-VLV-FL-056-6-1B-03	6" BALL VALVE MANUAL	To control the fluid in FL-056-6-1B-03 piping	Unable to control the fluid in 3 FL-056-6-1B-03 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-6-VLV-FL-056-6-1B-02	6" GATE VALVE MANUAL	To control the fluid in FL-056-6-1B-02 piping	Unable to control the fluid in 3 FL-056-6-1B-02 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-6-VLV-FL-056-6-1B-01	6" BALL VALVE MANUAL	To control the fluid in FL-056-6-1B-01 piping	Unable to control the fluid in 3 FL-056-6-1B-01 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-4-VLV-FL-057-4-1B-03	4" BALL VALVE MANUAL	To control the fluid in FL-057-4-1B-03 piping	Unable to control the fluid in 3 FL-057-4-1B-03 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-018-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-018-8-3B-03 piping	Unable to control the fluid in 3 PG-018-8-3B-03 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-4-VLV-FL-057-4-1B-02	4" GATE VALVE MANUAL	To control the fluid in FL-057-4-1B-02 piping	Unable to control the fluid in 3 FL-057-4-1B-02 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-V-220-01	3/4" ANGLE VALVE	Take action of fluid in V-220	Unable to take action of fluid 3 in V-220	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-4-VLV-FL-057-4-1B-01	4" BALL VALVE MANUAL	To control the fluid in FL-057-4-1B-01 piping	Unable to control the fluid in 3 FL-057-4-1B-01 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

0202MS-0.75-VLV-PG-124-12-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-124-12-3B-02 piping	Unable to control the fluid in PG-124-12-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-PG-124-12-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-124-12-3B-01 piping	Unable to control the fluid in PG-124-12-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-PG-123-8-3B-02	8" BALL VALVE MANUAL	To control the fluid in PG-123-8-3B-02 piping	Unable to control the fluid in PG-123-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-8-VLV-PG-123-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-123-8-3B-03 piping	Unable to control the fluid in PG-123-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0202MS-0.75-VLV-PG-018-8-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-018-8-3B-02 piping	Unable to control the fluid in PG-018-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0202**
EQUIPMENT TAG	**V-220**
EQUIPMENT NAME	**GLYCOL SCRUBBER**
ID level 7	**0202MT**
SUBUNIT	**MAIN TASK V-220**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0202MT-V-220	GLYCOL SCRUBBER	Separating between natural gas and glycol from Glycol Contactor V-210	Unable to separate between natural gas and glycol from Glycol Contactor V-210	4	Once Per > 1- 5 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	5	Gas Leak (>10 MMSCFD)	H	PM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0202
EQUIPMENT TAG	V-220
EQUIPMENT NAME	GLYCOL SCRUBBER
ID level 7	0202OF
SUBUNIT	OTHER FUNCTION V-220

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0202OF-8x4-RDC-FL-057-4-1B	8"x4" REDUCER	Transfer fluid in FL-057-4-1B	Unable to transfer fluid in FL-057-4-1B	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	L	CM
0202OF-2x1-RDC-GL-018-1-3B	2"x1" REDUCER	Transfer fluid in GL-018-1-3B	Unable to transfer fluid in GL-018-1-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0202OF-1x1.5-RDC-02	1"x1 1/2" REDUCER	Transfer fluid in V-220	Unable to transfer fluid in V-220	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0203
EQUIPMENT TAG	E-230
EQUIPMENT NAME	LEAN GLYCOL COOLER
ID level 7	0203CM
SUBUNIT	CONTAINMENT E-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0203CM-GL-019-1-1B	1" PIPING	Transfer fluid from GL-009-2-3B to CLOSE DRAIN	Unable to transfer fluid from GL-009-2-3B to CLOSE DRAIN accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0203CM-GL-012-2-3B	2" PIPING	Transfer fluid from E-230 to GL-010-2-3B	Unable to transfer fluid from E-230 to GL-010-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0203CM-GL-011-1-3B	1"PIPING	Transfer fluid from GL-009-2-3B to E-230	Unable to transfer fluid from GL-009-2-3B to E-230 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0203CM-GL-009-2-3B	2" PIPING	Transfer fluid from - to GL-010-2-3B	Unable to transfer fluid from - to GL-010-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0203CM-GL-010-2-3B	2" PIPING	Transfer fluid from GL-012-2-3B to V-220	Unable to transfer fluid from GL-012-2-3B to V-220 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0203**
EQUIPMENT TAG	**E-230**
EQUIPMENT NAME	**LEAN GLYCOL COOLER**
ID level 7	**0203CN**
SUBUNIT	**CONTROLLING E-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203CN-TCV-231	TEMPERATURE CONTROL VALVE	To control lean glycol to Lean Glycol Cooler E-230	Unable to control lean glycol to Lean Glycol Cooler E-230	4	Once Per > 1- 5 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0203**
EQUIPMENT TAG	**E-230**
EQUIPMENT NAME	**LEAN GLYCOL COOLER**
ID level 7	**0203LI**
SUBUNIT	**LOCAL INDICATION E-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203LI-I/P-231	TRANSDUCER	To monitor lean glycol inlet temperature to Lean Glycol Cooler E-230	Unable to monitor lean glycol inlet temperature to Lean Glycol Cooler E-230	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0203**
EQUIPMENT TAG	**E-230**
EQUIPMENT NAME	**LEAN GLYCOL COOLER**
ID level 7	**0203MS**
SUBUNIT	**MANUAL SHUTDOWN E-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203MS-2-VLV-GL-011-1-3B	2" GATE VALVE MANUAL	To control the fluid in GL-011-1-3B piping	Unable to control the fluid in GL-011-1-3B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0203MS-0.75-VLV-GL-012-2-3B	3/4" BALL VALVE MANUAL	To control the fluid in GL-012-2-3B piping	Unable to control the fluid in GL-012-2-3B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0203MS-2-VLV-GL-012-2-3B	2" GATE VALVE MANUAL	To control the fluid in GL-012-2-3B piping	Unable to control the fluid in GL-012-2-3B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0203**
EQUIPMENT TAG	**E-230**
EQUIPMENT NAME	**LEAN GLYCOL COOLER**
ID level 7	**0203MT**
SUBUNIT	**MAIN TASK E-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203MT-E-230	LEAN GLYCOL COOLER	reduce temperature of Lean Glycol from Glycol Pump P-240A/B	Unable to reduce temperature of Lean Glycol from Glycol Pump P-240A/B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0203**
EQUIPMENT TAG	**E-230**
EQUIPMENT NAME	**LEAN GLYCOL COOLER**
ID level 7	**0203OF**
SUBUNIT	**OTHER FUNCTION E-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203OF-2x1-RDC-GL-009-2-3B	2"x1" REDUCER	Transfer fluid in GL-009-2-3B	Unable to transfer fluid in GL-009-2-3B	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0203
EQUIPMENT TAG	E-230
EQUIPMENT NAME	LEAN GLYCOL COOLER
ID level 7	0203PR
SUBUNIT	PRESSURE RELIEF E-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0203PR-PSV-231	PRESSURE SAFETY VALVE	To provide overpressure protection for Lean Glycol Cooler E-230 by relieving at 70 barg, for fire case	Unable to provide overpressure protection for Lean Glycol Cooler E-230 by relieving at 600 psig, for fire	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0204
EQUIPMENT TAG	P-240A
EQUIPMENT NAME	GLYCOL ABSORBER A
ID level 7	0204CM
SUBUNIT	CONTAINMENT P-240A

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0204CM-GL-020-2-3B	P2" PIPING	Transfer fluid from GL-003-2-3B to GL-021-2-3B	Unable to transfer fluid from GL-003-2-3B to GL-021-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0204CM-GL-003-2-3B-02	2" PIPING	Transfer fluid from Gl-003-2-3B-01 to LEAN GLYCOL	Unable to transfer fluid from Gl-003-2-3B-01 to LEAN GLYCOL accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0204CM-GL-003-2-3B-01	2" PIPING	Transfer fluid from P-240A to GL-020-2-3B	Unable to transfer fluid from P-240A to GL-020-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0204CM-GL-001-1-1B	1" PIPING	Transfer fluid from GLYCOL FROM MAKE UP TANK to V-260	Unable to transfer fluid from GLYCOL FROM MAKE UP TANK to V-260 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0204**
EQUIPMENT TAG	**P-240A**
EQUIPMENT NAME	**GLYCOL ABSORBER A**
ID level 7	**0204LI**
SUBUNIT	**LOCAL INDICATION P-240A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0204LI-PI-241	PRESSURE INDICATOR	To provide local pressure indication of the Glycol Absorber A P-240A & Glycol Absorber B P-240B	Unable to provide local pressure indication of the Glycol Absorber A P-240A & Glycol Absorber B P-240B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0204**
EQUIPMENT TAG	**P-240A**
EQUIPMENT NAME	**GLYCOL ABSORBER A**
ID level 7	**0204MS**
SUBUNIT	**MANUAL SHUTDOWN P-240A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0204MS-2-VLV-GL-003-2-3B-02-02	2" CHECKVALVE MANUAL	To control the fluid in GL-003-2-3B-02-02 piping	Unable to control the fluid in GL-003-2-3B-02-02 piping on demand	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-0.5-VLV-P-240A	1/2" GATE VALVE MANUAL	Take control of fluid in P-240A	Take control of fluid in P-240A	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-0.5-VLV-GL-003-2-3B-02	2" GATE VALVE MANUAL	To control the fluid in GL-003-2-3B-02 piping	Unable to control the fluid in GL-003-2-3B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-2-VLV-GL-003-2-3B-02-03	2" GATE VALVE MANUAL	To control the fluid in GL-003-2-3B-02-03 piping	Unable to control the fluid in GL-003-2-3B-02-03 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-0.75-VLV-P-240A	3/4" GATE VALVE MANUAL	Take control of fluid in P-240A	Take control of fluid in P-240A	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-3-VLV-P-240A	3" GATE VALVE MANUAL	Take control of fluid in P-240A	Uanble to take control of fluid in P-240A	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-2-VLV-GL-003-2-3B-01	2" GATE VALVE MANUAL	To control the fluid in GL-003-2-3B-01 piping	Unable to control the fluid in GL-003-2-3B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0204MS-2-VLV-GL-001-1-1B	2" CHECK VALVE MANUAL	To control the fluid in GL-001-1-1B piping	Unable to control the fluid in GL-001-1-1B piping on demand	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0204MS-2-VLV-GL-003-2-3B-02-01	2" GATE VALVE MANUAL	To control the fluid in GL-003-2-3B-02-01 piping	Unable to control the fluid in GL-003-2-3B-02-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0204**
EQUIPMENT TAG	**P-240A**
EQUIPMENT NAME	**GLYCOL ABSORBER A**
ID level 7	**0204MT**
SUBUNIT	**MAIN TASK P-240A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0204MT-P-240A	GLYCOL ABSORBER A	Transfer Lean Glycol From Glycol Flash Separator V-280 to Lean Glycol Cooler E-230	Unable to transfer Lean Glycol From Glycol Flash Separator V-280 to Lean Glycol Cooler E-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0204**
EQUIPMENT TAG	**P-240A**
EQUIPMENT NAME	**GLYCOL ABSORBER A**
ID level 7	**0204OF**
SUBUNIT	**OTHER FUNCTION P-240A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0204OF-3x2-RDC-P-240A	3"x2" REDUCER	Transfer fluid in P-240A	Unable to transfer fluid in P-240A	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0204**
EQUIPMENT TAG	**P-240A**
EQUIPMENT NAME	**GLYCOL ABSORBER A**
ID level 7	**0204PR**
SUBUNIT	**PRESSURE RELIEF P-240A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0204PR-PSV-241-1	PRESSURE SAFETY VALVE	To provide overpressure protection for theGlycol Absorber A P-240A by relieving at 600 psig	Unable to provide overpressure protection for theGlycol Absorber A P-240A by relieving at 600 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0205**
EQUIPMENT TAG	**P-240B**
EQUIPMENT NAME	**GLYCOL ABSORBER B**
ID level 7	**0205CM**
SUBUNIT	**CONTAINMENT P-240B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0205CM-GL-004-2-3B	2" PIPING	Transfer fluid from P-240B to GL-021-2-3B	Unable to transfer fluid from P-240B to GL-021-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0205CM-GL-021-2-3B	2" PIPING	Transfer fluid from GL-004-2-3B to GL-020-2-3B	Unable to transfer fluid from GL-004-2-3B to GL-020-2-3B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0205CM-GL-020-2-1B	2" PIPING	Transfer fluid from GL-021-2-3B to V-260	Unable to transfer fluid from GL-021-2-3B to V-260 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0205CM-GL-014-3-1B	3" PIPING	Transfer fluid from P-240B to GL-002-2-1B	Unable to transfer fluid from P-240B to GL-002-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0205**
EQUIPMENT TAG	**P-240B**
EQUIPMENT NAME	**GLYCOL ABSORBER B**
ID level 7	**0205MS**
SUBUNIT	**MANUAL SHUTDOWN P-240B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0205MS-3-VLV-GL-014-3-1B	3" GATE VALVE MANUAL	To control the fluid in GL-014-3-1B piping	Unable to control the fluid in GL-014-3-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0205MS-0.75-VLV-P-240B	3/4" GATE VALVE MANUAL	Take control of fluid in P-240B	Take control of fluid in P-240B	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0205MS-0.5-VLV-GL-014-3-1B	1/2" GATE VALVE MANUAL	To control the fluid in GL-014-3-1B piping	Unable to control the fluid in GL-014-3-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0205MS-2-VLV-GL-021-2-3B	2" GATE VALVE MANUAL	To control the fluid in GL-021-2-3B piping	Unable to control the fluid in GL-021-2-3B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0205MS-2-VLV-GL-004-2-3B	2" GATE VALVE MANUAL	To control the fluid in GL-004-2-3B piping	Unable to control the fluid in GL-004-2-3B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0205**
EQUIPMENT TAG	**P-240B**
EQUIPMENT NAME	**GLYCOL ABSORBER B**
ID level 7	**0205MT**
SUBUNIT	**MAIN TASK P-240B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0205MT-P-240B	GLYCOL ABSORBER B	Transfer Lean Glycol From Glycol Flash Separator V-280 to Lean Glycol Cooler E-230	Unable to transfer Lean Glycol From Glycol Flash Separator V-280 to Lean Glycol Cooler E-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0205**
EQUIPMENT TAG	**P-240B**
EQUIPMENT NAME	**GLYCOL ABSORBER B**
ID level 7	**0205OF**
SUBUNIT	**OTHER FUNCTION P-240B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0205OF-PLD-01	PULSATION DANPER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0205
EQUIPMENT TAG	P-240B
EQUIPMENT NAME	GLYCOL ABSORBER B
ID level 7	0205PR
SUBUNIT	PRESSURE RELIEF P-240B

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0205PR-PSV-241-2	PRESSURE SAFETY VALVE	To provide overpressure protection for theGlycol Absorber A P-240A by relieving at 600 psig	Unable to provide overpressure protection for theGlycol Absorber A P-240A by relieving at 600 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0206
EQUIPMENT TAG	G-250
EQUIPMENT NAME	GLYCOL REGENERATOR
ID level 7	0206CM
SUBUNIT	CONTAINMENT G-250

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206CM-FL-006-4-1B	4" PIPING	Transfer fluid from G-250 to LIQUID TO CLOSE DRAIN	Unable to transfer fluid from G-250 to LIQUID TO CLOSE DRAIN accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0206CM-DL-007-0.5-1B	1/2" PIPING	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0206CM-GL-007-2-1B	2" PIPING	Transfer fluid from GL-008-2-1B to GL-019-2-1B	Unable to transfer fluid from GL-008-2-1B to GL-019-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0206CM-GL-008-2-1B	2" PIPING	Transfer fluid from GL-019-2-1B to GL-007-2-1B	Unable to transfer fluid from GL-019-2-1B to GL-007-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0206CM-GL-015-3-1B-01	3" PIPING	Transfer fluid from G-250 to GL-015-3-1B	Unable to transfer fluid from G-250 to GL-015-3-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0206**
EQUIPMENT TAG	**G-250**
EQUIPMENT NAME	**GLYCOL REGENERATOR**
ID level 7	**0206CN**
SUBUNIT	**CONTROLLING G-250**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206CN-SDY-251	SHUTDOWN COMPUTER	To stop the flow of a liquid hydrocarbon from Amine Contactor Inlet KO Drum 135-V-01 to Liquid	Unable to stop the flow of a liquid hydrocarbon from Amine Contactor Inlet KO Drum 135-V-01 to Liquid	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206CN-TCY-251	TEMPERATURE CONTROLLER COMPUTER	Provide Indication of Temperature	Unable to provide Indication of Temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206CN-TSH-251	TEMPERATURE SWITCH HIGH	To prevent high level of a liquid hydrocarbon from Glycol Regenerator G-250	Unable to prevent high level of a liquid hydrocarbon from Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0206CN-TSHH-251	TEMPERATURE SWITCH HIGH HIGH	To prevent high level of a liquid hydrocarbon from Glycol Regenerator G-250	Unable to prevent high level of a liquid hydrocarbon from Glycol Regenerator G-250	4	Once Per > 1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0206**
EQUIPMENT TAG	**G-250**
EQUIPMENT NAME	**GLYCOL REGENERATOR**
ID level 7	**0206LI**
SUBUNIT	**LOCAL INDICATION G-250**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206LI-I/P-251	TRANSDUCER	To monitor temperature from Glycol Regenerator G-250	Unable to monitor glycol inlet temperature to Glycol Regenerator G-250	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206LI-LG-251	LEVEL GAUGE	To provide local level indication of the fluid from Glycol Regenerator G-250	Unable to provide local level indication of the fluid from Glycol Regenerator G-250	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206LI-TT-252	TEMPERATURE TRANSMITTER	To monitor fluid temperature of Glycol Regenerator G-250	Unable to monitor fluid temperature of Glycol Regenerator G-250	4	Once Per > 1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206LI-TT-251	TEMPERATURE TRANSMITTER	To monitor fluid temperature of Glycol Regenerator G-250	Unable to monitor fluid temperature of Glycol Regenerator G-250	4	Once Per > 1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206LI-TIC-251	TEMPERATURE INDICATOR CONTROLLER	To provide local indication of the Glycol Regenerator G-250 temperature	Unableo provide local indication of the Glycol Regenerator G-250 temperature	4	Once Per > 1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0206
EQUIPMENT TAG	G-250
EQUIPMENT NAME	GLYCOL REGENERATOR
ID level 7	0206MN
SUBUNIT	MONITORING G-250

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206MN-TAHH-251	TEMPERATURE ALARM HIGH HIGH	To give information or warning about high level fluid in Glycol Regenerator G-250	Unable to give information or warning about high level fluid in Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-SY-251-1	SPEED COMPUTER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-TAH-251-01	TEMPERATURE ALARM HIGH	To give information or warning about high level fluid in Glycol Regenerator G-250	Unable to give information or warning about high level fluid in Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-TR-201-1	TEMPERATURE RECORDER	To record gas temperature of Glycol Regenerator G-250	Unable to record gas temperature of Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-TAH-251-02	TEMPERATURE ALARM HIGH	To give information or warning about high level fluid in Glycol Regenerator G-250	Unable to give information or warning about high level fluid in Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-TI-251-1	TEMPERATURE INDICATOR	To provide local indication of the Glycol Regenerator G-250 temperature	Unableo provide local indication of the Glycol Regenerator G-250 temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0206MN-TI-252-01	TEMPERATURE INDICATOR	To provide local indication of the Glycol Regenerator 250 temperature	Unableo provide local indication of the Glycol Regenerator G-250 temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MN-TI-252-02	TEMPERATURE INDICATOR	To provide local indication of the Glycol Regenerator 250 temperature	Unableo provide local indication of the Glycol Regenerator G-250 temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0206**
EQUIPMENT TAG	**G-250**
EQUIPMENT NAME	**GLYCOL REGENERATOR**
ID level 7	**0206MS**
SUBUNIT	**MANUAL SHUTDOWN G-250**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206MS-0.75-VLV-DL-007-0.5-1B-02	3/4" THREE WAY VALVE AUTOMATIC	To control the fluid in DL-007-0.5-1B-02 piping	Unable to control the fluid in DL-007-0.5-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-0.5-VLV-DL-007-0.5-1B	1/2" BALL VALVE	To control the fluid in DL-007-0.5-1B piping	Unable to control the fluid in DL-007-0.5-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-2-VLV-GL-007-2-1B-02	2" BALL VALVE MANUAL	To control the fluid in GL-007-2-1B-02 piping	Unable to control the fluid in GL-007-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-2-VLV-GL-007-2-1B-01	2" BALL VALVE MANUAL	To control the fluid in GL-007-2-1B-01 piping	Unable to control the fluid in GL-007-2-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0206MS-0.5-VLV-GL-008-2-1B	0.5" BALL VALVE MANUAL	To control the fluid in GL-008-2-1B piping	Unable to control the fluid in GL-008-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-0.5-VLV-GL-007-2-1B	0.5" BALL VALVE MANUAL	To control the fluid in GL-007-2-1B piping	Unable to control the fluid in GL-007-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-0.75-VLV-DL-007-0.5-1B-01	3/4" THREE WAY VALVE AUTOMATIC	To control the fluid in DL-007-0.5-1B-01 piping	Unable to control the fluid in DL-007-0.5-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-0.75-VLV-V-G-250-01	3/4" GATE VALVE MANUAL	To control the fluid in V-G-250-01 piping	Unable to control the fluid in V-G-250-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-0.75-VLV-V-G-250-02	3/4" GATE VALVE MANUAL	To control the fluid in V-G-250-02 piping	Unable to control the fluid in V-G-250-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-1-VLV-V-G-250-02	1" GATE VALVE MANUAL	To control the fluid in V-G-250-02 piping	Unable to control the fluid in V-G-250-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-2-VLV-G-250	2" GATE VALVE MANUAL	Take action of fluid in G-250	Unable to take action of fluid in G-250	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206MS-1-VLV-V-G-250-01	1" GATE VALVE MANUAL	To control the fluid in V-G-250-01 piping	Unable to control the fluid in V-G-250-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5 02

SECTION/SYSTEM DEHYDRATION SYSTEM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0206**
EQUIPMENT TAG	**G-250**
EQUIPMENT NAME	**GLYCOL REGENERATOR**
ID level 7	**0206MT**
SUBUNIT	**MAIN TASK G-250**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206MT-G-250	GLYCOL REGENERATOR	Regenerate Glycol for purified	Unable to regenerate Glycol for purified	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0206**
EQUIPMENT TAG	**G-250**
EQUIPMENT NAME	**GLYCOL REGENERATOR**
ID level 7	**0206OF**
SUBUNIT	**OTHER FUNCTION G-250**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0206OF-0.75x0.5-RDC-DL-007-0.5-1B-01	3/4" REDUCER	Transfer fluid in DL-007-0.5-1B-01	Unable to transfer fluid in DL-1007-0.5-1B-01	Less then Once per 15 years		1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0206OF-0.75x0.5-RDC-DL-007-0.5-1B-02	3/4" REDUCER	Transfer fluid in DL-007-0.5-1B-02	Unable to transfer fluid in DL-1007-0.5-1B-02	Less then Once per 15 years		1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	0207
EQUIPMENT TAG	E-570
EQUIPMENT NAME	GLYCOL EXCHANGER
ID level 7	0207CM
SUBUNIT	CONTAINMENT E-570

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207CM-GL-012-2-1B-01	2" PIPING	Transfer fluid from RICH GLYCOL FROM FILTERS to E-570	Unable to transfer fluid from RICH GLYCOL FROM FILTERS to E-570 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0207CM-GL-014-2-1B	2" PIPING	Transfer fluid from E-570 to G-250	Unable to transfer fluid from E-570 to G-250 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0207CM-GL-015-3-1B-02	3" PIPING	Transfer fluid from GL-016-2-1B to LEAN GLYCOL TO FLASH SEPARATOR	Unable to transfer fluid from GL-016-2-1B to LEAN GLYCOL TO FLASH SEPARATOR accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0207CM-GL-016-2-1B	2" PIPING	Transfer fluid from E-570 to GL-015-3-1B	Unable to transfer fluid from E-570 to GL-015-3-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0207CM-DL-008-2-1B	2" PIPING	Transfer fluid from GL-018-3-1B to V-580	Unable to transfer fluid from GL-018-3-1B to V-580 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0207CM-GL-018-3-1B	3" PIPING	Transfer fluid from E-570 to DL-008-2-1B	Unable to transfer fluid from E-570 to DL-008-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0207**
EQUIPMENT TAG	**E-570**
EQUIPMENT NAME	**GLYCOL EXCHANGER**
ID level 7	**0207CN**
SUBUNIT	**CONTROLLING E-570**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207CN-LCV-283	2" LEVEL CONTROLLER VALVE	To control the liquid level in Glycol Exchanger E-570 to Glycol Regenerator G-250	Unable to control the liquid level in Glycol Exchanger E-570 to Glycol Regenerator G-250	3	Once per > 5-10 years	4	Medical Treatment With LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	H	PM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0207**
EQUIPMENT TAG	**E-570**
EQUIPMENT NAME	**GLYCOL EXCHANGER**
ID level 7	**0207LI**
SUBUNIT	**LOCAL INDICATION E-570**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207LI-I/P-283	TRANSDUCER	To monitor level fluid from Glycol Exhanger E-570 to Glycol Regenerator G-250	Unable to monitor level fluid from Glycol Exhanger E-570 to Glycol Regenerator G-250	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0207**
EQUIPMENT TAG	**E-570**
EQUIPMENT NAME	**GLYCOL EXCHANGER**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0207MN**
SUBUNIT	**MONITORING E-570**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207MN-TI-273	TEMPERATURE INDICATOR	To provide local indication of the Glycol Exhanger E-570 fluid temperature	Unable to provide local indication of the Glycol Exhanger E-570 fluid temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MN-TI-272	TEMPERATURE INDICATOR	To provide local indication of the Glycol Exhanger E-570 fluid temperature	Unable to provide local indication of the Glycol Exhanger E-570 fluid temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MN-TI-271	TEMPERATURE INDICATOR	To provide local indication of the Glycol Exhanger E-570 fluid temperature	Unable to provide local indication of the Glycol Exhanger E-570 fluid temperature	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0207**
EQUIPMENT TAG	**E-570**
EQUIPMENT NAME	**GLYCOL EXCHANGER**
ID level 7	**0207MS**
SUBUNIT	**MANUAL SHUTDOWN E-570**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207MS-3-VLV-GL-017-4-1B	3" BALL VALVE MANUAL	To control the fluid in GL-017-4-1B piping	Unable to control the fluid in 3 GL-017-4-1B piping on demand		Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0207MS-3-VLV-GL-016-2-1B	3" GATE VALVE MANUAL	To control the fluid in GL-016-2-1B piping	Unable to control the fluid in GL-016-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MS-3-VLV-GL-015-3-1B	3" BALL VALVE MANUAL	To control the fluid in GL-015-3-1B piping	Unable to control the fluid in GL-015-3-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MS-2-VLV-E-570	2" GATE VALVE MANUAL	To take action of fluid in E-570	Unable to take action of fluid in E-570	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MS-0.5-VLV-E-570	1/2" GATE VALVE MANUAL	To take action of fluid in E-570	Unable to take action of fluid in E-570	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0207MS-2-VLV-GL-012-2-1B-01	2" GATE VALVE MANUAL	To control the fluid in GL-012-2-1B-01 piping	Unable to control the fluid in GL-012-2-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0207**
EQUIPMENT TAG	**E-570**
EQUIPMENT NAME	**GLYCOL EXCHANGER**
ID level 7	**0207MT**
SUBUNIT	**MAIN TASK E-570**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0207MT-E-570	GLYCOL EXCHANGER	reduce temperature of Lean Glycol from Glycol Flash Separator V-280\	Unable to reduce temperature of Lean Glycol from Glycol Flash Separator V-280\	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0208
EQUIPMENT TAG	V-280
EQUIPMENT NAME	GLYCOL FLASH SEPARATOR
ID level 7	0208CM
SUBUNIT	CONTAINMENT V-280

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208CM-PL-004-2-1B	2" PIPING	Transfer fluid from V-280 to CONDENSATE TO T-130	Unable to transfer fluid from V-280 to CONDENSATE TO T-130 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-017-4-1B	4" PIPING	Transfer fluid from GL-015-3-1B to LEAN GLYCOL TO GLYCOL EXCHANGER	Unable to transfer fluid from GL-015-3-1B to LEAN GLYCOL TO GLYCOL EXCHANGER accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-DL-004-2-1B	2" PIPING	Transfer fluid from V-280 to LIQUID TO CLOSE DRAIN	Unable to transfer fluid from V-280 to LIQUID TO CLOSE DRAIN accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-FG-017-1-1B	1" PIPING	Transfer fluid from GAS BLANKET FROM GAS SCRUBBER to FL-023-2-1B	Unable to transfer fluid from GAS BLANKET FROM GAS SCRUBBER to FL-023-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-FL-021-4-1B	4" PIPING	Transfer fluid from V-280 to FL-024-4-1B	Unable to transfer fluid from V-280 to FL-024-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-002A-2-1B	2" PIPING	Transfer fluid from V-580 to V-260	Unable to transfer fluid from V-580 to V-260 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0208CM-FL-022-0.5-1B	1/2" PIPING	Transfer fluid from V-280 to FL-024-4-1B	Unable to transfer fluid from V-280 to FL-024-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-015-3-1B	3" PIPING	Transfer fluid from LEAN GLYCOL FROM REGENERATOR to GL-017-4-1B	Unable to transfer fluid from LEAN GLYCOL FROM REGENERATOR to GL-017-4-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-FL-023-2-1B	2" PIPING	Transfer fluid from V-280 to FL-024-4-1B	Unable to transfer fluid from V-280 to FL-024-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-009-2-1B-01	1" PIPING	Transfer fluid from V-280 to GL-010-2-1B	Unable to transfer fluid from V-280 to GL-010-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-002-2-1B	2" PIPING	Transfer fluid from V-580 to P-240A	Unable to transfer fluid from V-580 to P-240A accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CM-GL-008-2-3B	2" PIPING	Transfer fluid from CONDENSATE FROM CONTACTOR to 0	Unable to transfer fluid from CONDENSATE FROM CONTACTOR to 0 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208CN**
SUBUNIT	**CONTROLLING V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0208CN-BPR-DHU-02	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208CN-BPR-DHU-01	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208LI**
SUBUNIT	**LOCAL INDICATION V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208LI-LT-283	LEVEL TRANSMITTER	To monitor fluid level from Glycol Flash Separator V-280	To monitor fluid level from Glycol Flash Separator V-280	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208LI-PI-281	PRESSURE INDICATOR	To provide local indication of the Glycol Flash Separator V-280 fluid pressure	Unable to provide local indication of the Glycol Flash Separator V-280 fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208LI-LIC-283	LEVEL INDICATOR CONTROLLER	To provide local indication of the Glycol Flash Separator V-280 gas outlet pressure	Unable to provide local indication of the Glycol Flash Separator V-280 gas outlet pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208LI-LG-281	LEVEL GAUGE	To provide local level indication of fluid in Glycol Flash Separator V-280	Unable to provide local level indication of fluid in Glycol Flash Separator V-280	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0208LI-LG-282	LEVEL GAUGE	To provide local level indication of fluid in Glycol Flash Separator V-280	Unable to provide local level indication of fluid in Glycol Flash Separator V-280	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208MN**
SUBUNIT	**MONITORING V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208MN-TI-281	TEMPERATURE INDICATOR	To provide local indication of the Glycol Flash Separato V-280 fluid temperature	To provide local indication of 4 the Glycol Flash Separator V-280 fluid temperature	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208MS**
SUBUNIT	**MANUAL SHUTDOWN V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208MS-3-VLV-FL-021-4-1B	3" BALL VALV MANUAL	To control the fluid in FL-021-4-1B piping	Unable to control the fluid in 3 FL-021-4-1B piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0208MS-2-VLV-PL-004-2-1B	2" BALL VALVE MANUAL	To control the fluid in PL-004-2-1B piping	Unable to control the fluid in PL-004-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-2-VLV-FL-023-2-1B	2" GATE VALVE MANUAL	To control the fluid in FL-023-2-1B piping	Unable to control the fluid in FL-023-2-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0208MS-4-VLV-FL-021-4-1B	4" BALL VALVE MANNUAL	To control the fluid in FL-021-4-1B piping	Unable to control the fluid in FL-021-4-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0208MS-0.75-VLV-V-280	3/4" GATE VALVE MANUAL	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-2-VLV-FG-017-1-1B	2" GATE VALVE MANUAL	To control the fluid in FG-017-1-1B piping	Unable to control the fluid in FG-017-1-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0208MS-0.5-VLV-V-280-05	1/2" GATE VALVE MANUAL	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-0.5-VLV-V-280-04	1/2" ANGLE VALVE	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-0.5-VLV-V-280-03	1/2" ANGLE VALVE	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0208MS-2-VLV-DL-004-2-1B	2" BALL VALVE MANUAL	To control the fluid in DL-004-2-1B piping	Unable to control the fluid in DL-004-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-1.5-VLV-V-280-01	1 1/2" GATE VALVE MANUAL	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-1.5-VLV-V-280-02	1 1/2" GATE VALVE MANUAL	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-0.5-VLV-V-280-02	1/2" ANGLE VALVE	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208MS-0.5-VLV-V-280-01	1/2" ANGLE VALVE	To take action of the fluid in V-280	Unable to take action of the fluid in V-280	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208MT**
SUBUNIT	**MAIN TASK V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208MT-V-280	GYCOL FLASH SEPARATOR	Separating between glycol and natural gas from Glycol Regenerator G-250 to Glycol Exchanger E-570	Unable to separating between glycol and natural gas from Glycol Regenerator G-250 to Glycol Exchanger E-	4	Once Per >1- 5 years	4	Medical Treatment With LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	H	PM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208OF**
SUBUNIT	**OTHER FUNCTION V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0208OF-1.5X0.75-RDC-V-280	1 1/2" X 3/4" REDUCER	Transfer fluid in V-280	Unable to transfer fluid in V-280	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208OF-1X1.5-RDC-FL-022-0.5-1B	1"X1 1/2" REDUCER	Transfer fluid in FL-022-0.5-1B	Unable to transfer fluid in FL-022-0.5-1B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0208OF-3X2-RDC-GL-008-2-3B	3"X2" REDUCER	Transfer fluid in RDC-GL-008-2-3B	Unable to transfer fluid in RDC-GL-008-2-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0208**
EQUIPMENT TAG	**V-280**
EQUIPMENT NAME	**GLYCOL FLASH SEPARATOR**
ID level 7	**0208PR**
SUBUNIT	**PRESSURE RELIEF V-280**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0208PR-PSV-281	PRESSURE SAFETY VALVE	To provide overpressure protection for the Glycol Flash Separator V-280 by relieving at 75 psig	Unable to provide overpressure protection for the Glycol Flash Separator V-280 by relieving at 75 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0209**
EQUIPMENT TAG	**F-290**
EQUIPMENT NAME	**CHARCOAL FILTER**
ID level 7	**0209CM**
SUBUNIT	**CONTAINMENT F-290**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0209CM-GL-013-2-1B	2" PIPING	Transfer fluid from G-011-2-1B to GL-012-2-1B	Unable to transfer fluid from G-011-2-1B to GL-012-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-GL-012-2-1B-02	2" PIPING	Transfer fluid from F-290 to G-011-2-1B	Unable to transfer fluid from F-290 to G-011-2-1B accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-FL-014-2-1B	2" PIPING	Transfer fluid from FL-009-2-1B to FL-025-4-1B	Unable to transfer fluid from FL-009-2-1B to FL-025-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-FL-009-2-1B	2" PIPING	Transfer fluid from G-011-2-B to FL-014-2-1B	Unable to transfer fluid from G-011-2-B to FL-014-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-GL-011-2-1B	2" PIPING	Transfer fluid from G-011-2-1B-01 to G-011-2-1B-02	Unable to transfer fluid from G-011-2-1B-01 to G-011-2-1B-02 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0209CM-PL-010-0.75-1B	3/4" PIPING	Transfer fluid from F-290 to 0	Unable to transfer fluid from F-290 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-FL-016-0.5-1B	1/2" PIPING	Transfer fluid from F-290 to FL-017-0.5-1B	Unable to transfer fluid from F-290 to FL-017-0.5-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0209CM-G-011-2-1B	2" PIPING	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0209**
EQUIPMENT TAG	**F-290**
EQUIPMENT NAME	**CHARCOAL FILTER**
ID level 7	**0209MS**
SUBUNIT	**MANUAL SHUTDOWN F-290**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0209MS-0.75-VLV-F-290-01	3/4" GATE VALVE MANUAL	To take action of fluid in F-290	Unable to take action of fluid in F-290	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0209MS-0.5-VLV-F-290	1/2" GATE VALVE MANUAL	To take action of fluid in F-290	Unable to take action of fluid in F-290	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0209MS-0.75-VLV-F-290-02	3/4" BALL VALVE MANUAL	To take action of fluid in F-290	Unable to take action of fluid in F-290	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0209MS-2-VLV-GL-013-2-1B	2" GATE VALVE MANUAL	To control the fluid in GL-013-2-1B piping	Unable to control the fluid in 3 GL-013-2-1B piping on demand	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0209MS-2-VLV-GL-012-2-1B-02	2" GATE VALVE MANUAL	To control the fluid in GL-012-2-1B-02 piping	Unable to control the fluid in 3 GL-012-2-1B-02 piping on demand	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0209MS-2-VLV-G-011-2-1B	2" GATE VALVE MANUAL	To control the fluid in G-011-2-1B piping	Unable to control the fluid in 3 G-011-2-1B piping on demand	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0209MS-1-VLV-FL-009-2-1B	1" BALL VALVE MANUAL	To control the fluid in FL-009-2-1B piping	Unable to control the fluid in 3 FL-009-2-1B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0209MS-2-VLV-FL-014-2-1B	2" BALL VALVE MANUAL	To control the fluid in FL-014-2-1B piping	Unable to control the fluid in 3 FL-014-2-1B piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0209**
EQUIPMENT TAG	**F-290**
EQUIPMENT NAME	**CHARCOAL FILTER**
ID level 7	**0209MT**
SUBUNIT	**MAIN TASK F-290**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0209MT-F-290	CHARCOAL FILTER	Filtering Glycol from other contaminant	Unable to filtering Glycol from other contaminant	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0209
EQUIPMENT TAG	F-290
EQUIPMENT NAME	CHARCOAL FILTER
ID level 7	0209OF
SUBUNIT	OTHER FUNCTION F-290

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0209OF-2x1-RDC-FL-009-2-1B	2"x1" REDUCER	Transfer fluid in FL-009-2-1B	Unable to transfer fluid in FL-1009-2-1B	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	L	CM

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM
ID Level 6	0209
EQUIPMENT TAG	F-290
EQUIPMENT NAME	CHARCOAL FILTER
ID level 7	0209PR
SUBUNIT	PRESSURE RELIEF F-290

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0209PR-PSV-291	PRESSURE SAFETY VALVE	To provide overpressure protection for the Chorcoal Filter by relieving at 75 psig	Unable to provide overpressure protection for the Chorcoal Filter by relieving at 75 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	02
SECTION/SYSTEM	DEHYDRATION SYSTEM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**
ID level 7	**0210CM**
SUBUNIT	**CONTAINMENT V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210CM-4-VNT-V-260	4" VENT	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	5	Gas Leak (>10 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**
ID level 7	**0210CN**
SUBUNIT	**CONTROLLING V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210CN-LSL-261	LEVEL SWITCH LOW	To prevent low level of a liquid in from Glycol Surge Drum V-260	Unable to prevent low level of a liquid from Glycol Surge Drum V-260	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0210LI**
SUBUNIT	**LOCAL INDICATION V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210LI-LG-261	LEVEL GAUGE	To provide local level indication of the fluid from Glycol Surge Drum V-260	Unable to provide local level indication of fluid from Glycol Surge Drum V-260	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**
ID level 7	**0210MN**
SUBUNIT	**MONITORING V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210MN-LAL-261	LEVEL ALARM LOW	To give information or warning about low level fluid in Glycol Surge Drum V-260	Uownable to give information or warning about low-level fluid in Glycol Surge Drum V-260	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7 0210MS

SUBUNIT MANUAL SHUTDOWN V-260

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210MS-3-VLV-V-260-02	3" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-0.75-VLV-V-260-01	3/4" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-0.5-VLV-V-260	1/2" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-0.75-VLV-V-260-03	3/4" THREE WAY VALVE AUTOMATIC	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210MS-1.5-VLV-V-260	1 1/2" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-1.5x0.75-RDC-V-260	1 1/2"x3/4" REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210MS-1-VLV-V-260	1" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0210MS-2-VLV-V-260	2" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-3-VLV-V-260-01	3" GATE VALVE MANUAL	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0210MS-0.75-VLV-V-260-02	3/4" THREE WAY VALVE AUTOMATIC	To take action fluid in V-260	Unable to take action fluid in V-260	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**
ID level 7	**0210MT**
SUBUNIT	**MAIN TASK V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210MT-V-260	GLYCOL SURGE DRUM	as storage and preventing surge in the circulation system.	Unable to preventing surge in the circulation system.	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0210**
EQUIPMENT TAG	**V-260**
EQUIPMENT NAME	**GLYCOL SURGE DRUM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0210OF**
SUBUNIT	**OTHER FUNCTION V-260**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0210OF-4x2-RDC-V-260	REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210OF-3x1.5-RDC-V-260	3"x1 1/2" REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210OF-1.5-RDC-V-260	REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210OF-0.75x0.5-RDC-V-260-02	3/4" REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0210OF-0.75x0.5-RDC-V-260-01	3/4" REDUCER	Transfer fluid from V-260	Unable to transfer fluid from V-260	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0211**
EQUIPMENT TAG	**F-290A**
EQUIPMENT NAME	**CATRIDGE FILTER**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7 0211CM
SUBUNIT CONTAINMENT F-290A

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0211CM-GL-010-2-1B	2" PIPING	Transfer fluid from GL-011-2-1B-01 to GL-009-2-1B-02	Unable to transfer fluid from GL-011-2-1B-01 to GL-009-2-1B-02 accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-2-FL-010-2-1B	2" PIPING	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-FL-010-2-1B	2" PIPING	Transfer fluid from GL-009-2-1B to FL-015-2-1B	Unable to transfer fluid from GL-009-2-1B to FL-015-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-GL-009-2-1B-02	2" PIPING	Transfer fluid from GL-010-2-1B to F-290A	Unable to transfer fluid from GL-010-2-1B to F-290A accurately	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-FL-035-1-1B-01	1" PIPING	Transfer fluid from RELIEF GAS GAS DRIP POT to FL-025-4-1B	Unable to transfer fluid from RELIEF GAS GAS DRIP POT to FL-025-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-FL-025-4-1B	4" PIPING	Transfer fluid from FL-015-2-1B to FL-027-8-1B	Unable to transfer fluid from FL-015-2-1B to FL-027-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0211CM-FL-017-0.5-1B	1/2" PIPING	Transfer fluid from F-290A to FL-025-4-1B	Unable to transfer fluid from F-290A to FL-025-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0211CM-FL-015-2-1B	2" PIPING	Transfer fluid from FL-010-2-1B to FL-025-4-1B	Unable to transfer fluid from FL-010-2-1B to FL-025-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0211**
EQUIPMENT TAG	**F-290A**
EQUIPMENT NAME	**CATRIDGE FILTER**
ID level 7	**0211MS**
SUBUNIT	**MANUAL SHUTDOWN F-290A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0211MS-0.75-VLV-F-290A	3/4" GATE VALVE MANUAL	To take action fluid in F-290A	Unable to take action fluid in F-290A	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0211MS-2-VLV-GL-010-2-1B	2" GATE VALVE MANUAL	To control the fluid in GL-010-2-1B piping	Unable to control the fluid in GL-010-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0211MS-1-VLV-FL-010-2-1B	1" BALL VALVE MANUAL	To control the fluid in FL-010-2-1B piping	Unable to control the fluid in FL-010-2-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0211MS-2-VLV-FL-015-2-1B	2" GATE VALVE MANUAL	To control the fluid in FL-015-2-1B	Unable to control the fluid in FL-015-2-1B	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0211MS-2-VLV-GL-009-2-1B	2" GATE VALVE MANUAL	To control the fluid in GL-009-2-1B piping	Unable to control the fluid in GL-009-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0211MS-1/2-VLV-F-290A-01	1/2" GATE VALVE MANUAL	To take action fluid in F-290A	Unable to take action fluid in F-290A	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0211MS-1/2-VLV-F-290A-02	1/2" GATE VALVE MANUAL	To take action fluid in F-290A	Unable to take action fluid in F-290A	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0211**
EQUIPMENT TAG	**F-290A**
EQUIPMENT NAME	**CATRIDGE FILTER**
ID level 7	**0211MT**
SUBUNIT	**MAIN TASK F-290A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0211MT-F-290A	CATRIDGE FILTER	Filtering Glycol from other contaminant	Unable to filtering Glycol from other contaminant	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**02**
SECTION/SYSTEM	**DEHYDRATION SYSTEM**
ID Level 6	**0211**
EQUIPMENT TAG	**F-290A**
EQUIPMENT NAME	**CATRIDGE FILTER**
ID level 7	**0211PR**
SUBUNIT	**PRESSURE RELIEF F-290A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0211PR-PSV-291A	PRESSURE SAFETY VALVE	To provide overpressure protection for the Amine Contactor Inlet KO Drum 135-V-01 by relieving at 70	Unable to provide overpressure protection for the Amine Contactor Inlet KO Drum 135-V-01 by relieving	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**03**
SECTION/SYSTEM	**COMPRESSING SYSTEM**
ID Level 6	**0301**
EQUIPMENT TAG	**C-390**
EQUIPMENT NAME	**GAS COMPRESSOR**
ID level 7	**0301CM**
SUBUNIT	**CONTAINMENT C-390**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301CM-PG-106-16-3B	16" PIPING	Transfer fluid from PG-104-16-3B to PG-108-8-3B	Unable to transfer fluid from PG-104-16-3B to PG-108-8-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-FL-104-8-1B	8" PIPING	Transfer fluid from FL-103-8-1B to FLARE HEADER	Unable to transfer fluid from FL-103-8-1B to FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-DL-102-2-1B	2" PIPING	Transfer fluid from DL-104-2-1B to DL-103-2-1B	Unable to transfer fluid from DL-104-2-1B to DL-103-2-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-DL-103-2-1B	2" PIPING	Transfer fluid from DL-102-2-1B to CLOSED DRAIN HEADER	Unable to transfer fluid from DL-102-2-1B to CLOSED DRAIN HEADER accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-DL-104-2-1B	2" PIPING	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

0301CM-FG-104-3-1B	3" PIPING	Transfer fluid from FUEL GAS DISTRIBUTION to FG-105-3-1B	Unable to transfer fluid from FUEL GAS DISTRIBUTION to FG-105-3-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-FG-105-3-1B	3" PIPING	Transfer fluid from FG-104-3-1B to FG-108-2-1B	Unable to transfer fluid from FG-104-3-1B to FG-108-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-PG-112-6-3B	6" PIPING	Transfer fluid from C-390 to PG-115-10-3B	Unable to transfer fluid from C-390 to PG-115-10-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-FL-103-8-1B	8" PIPING	Transfer fluid from FL-106-3-1B to FL-104-8-1B	Unable to transfer fluid from FL-106-3-1B to FL-104-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-UG-105-3-1B	3" PIPING	Transfer fluid from UG-104-3-1B to C-390	Unable to transfer fluid from UG-104-3-1B to C-390 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-FL-105-3-1B	3" PIPING	Transfer fluid from 0 to FL-103-8-1B	Unable to transfer fluid from 0 to FL-103-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-FL-106-3-1B	3" PIPING	Transfer fluid from C-390 to FL-103-8-1B	Unable to transfer fluid from C-390 to FL-103-8-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-PG-105-6-3B	6" PIPING	Transfer fluid from HP SEPARATOR to PG-106-16-3B	Unable to transfer fluid from HP SEPARATOR to PG-106-16-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0301CM-PG-108-8-3B	8" PIPING	Transfer fluid from PG-106-16-3B to C-390	Unable to transfer fluid from PG-106-16-3B to C-390 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-PG-113-6-3B	6" PIPING	Transfer fluid from 0 to PG-115-10-3B	Unable to transfer fluid from 0 to PG-115-10-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-PG-115-10-3B	10" PIPING	Transfer fluid from PG-112-6-3B to PG-118-10-3B	Unable to transfer fluid from PG-112-6-3B to PG-118-10-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-PG-118-10-3B-02	10" PIPING	Transfer fluid from PG-115-10-3B to GLYCOL DEHIDRATION UNIT	Unable to transfer fluid from PG-115-10-3B to GLYCOL DEHIDRATION UNIT accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-PG-118A-2-3B	2" PIPING	Transfer fluid from PG-118-10-3B to PG-106-16-3B	Unable to transfer fluid from PG-118-10-3B to PG-106-16-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	L	CM
0301CM-UG-104-3-1B	3" PIPING	Transfer fluid from UTILITY GAS RECEIVER to UG-105-3-1B	Unable to transfer fluid from UTILITY GAS RECEIVER to UG-105-3-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	L	CM
0301CM-FG-108-2-1B	2" PIPING	Transfer fluid from FG-105-3-1B to C-390	Unable to transfer fluid from FG-105-3-1B to C-390 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**03**
SECTION/SYSTEM	**COMPRESSING SYSTEM**
ID Level 6	**0301**
EQUIPMENT TAG	**C-390**
EQUIPMENT NAME	**GAS COMPRESSOR**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0301CN**
SUBUNIT	**CONTROLLING C-390**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301CN-FCV-370	2" FLOW CONTROL VALVE	To control flow from Lean Amine Pumps 135-P-01 A/B to Amine Contactor 135-V-06	Unable to control flow from Lean Amine Pumps 135-P-01 A/B to Amine Contactor 135-V-06	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	H	PM

ID LEVEL 5	**03**
SECTION/SYSTEM	**COMPRESSING SYSTEM**
ID Level 6	**0301**
EQUIPMENT TAG	**C-390**
EQUIPMENT NAME	**GAS COMPRESSOR**
ID level 7	**0301LI**
SUBUNIT	**LOCAL INDICATION C-390**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301LI-PT-370	PRESSURE TRANSMITTER	To monitor gas inlet pressure to Gas Compressor C-390	Unable to monitor gas inlet pressure to Gas Compressor C-390	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301LI-PIC-370	PRESSURE INDICATING	To provide local indication of the pressure gas to Gas Compressor C-390	Unable to provide local indication of the pressure gas to Gas Compressor C-390	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301LI-IP-PG-118A-2-3B	TRANSDUCER	To monitor flow to Gas Compressor C-390	Unable to monitor flow to Gas Compressor C-390	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	03
SECTION/SYSTEM	COMPRESSING SYSTEM
ID Level 6	0301
EQUIPMENT TAG	C-390
EQUIPMENT NAME	GAS COMPRESSOR
ID level 7	0301MS
SUBUNIT	MANUAL SHUTDOWN C-390

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301MS-0.75-VLV-PG-115-10-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-115-10-3B-02 piping	Unable to control the fluid in PG-115-10-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-8-VLV-PG-108-8-3B	8" BALL VALVE MANUAL	To control the fluid in PG-108-8-3B piping	Unable to control the fluid in PG-108-8-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-6-VLV-PG-115-10-3B	6" BALL VALVE MANUAL	To control the fluid in PG-115-10-3B piping	Unable to control the fluid in PG-115-10-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-8-VLV-PG-105-6-3B	8" BALL VALVE MANUAL	To control the fluid in PG-105-6-3B piping	Unable to control the fluid in PG-105-6-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-8-VLV-PG-106-16-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-106-16-3B-01 piping	Unable to control the fluid in PG-106-16-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-3-VLV-FL-103-8-1B	3" BALL VALVE MANUAL	To control the fluid in FL-103-8-1B piping	Unable to control the fluid in FL-103-8-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0301MS-0.75-VLV-PG-106-16-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-106-16-3B-02 piping	Unable to control the fluid in PG-106-16-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-6-VLV-PG-105-6-3B	6" BALL VALVE MANUAL	To control the fluid in PG-105-6-3B piping	Unable to control the fluid in PG-105-6-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-6-VLV-PG-113-6-3B	6" BALL VALVE MANUAL	To control the fluid in PG-113-6-3B piping	Unable to control the fluid in PG-113-6-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-6-VLV-PG-112-6-3B	6" BALL VALVE MANUAL	To control the fluid in PG-112-6-3B piping	Unable to control the fluid in PG-112-6-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-0.75-VLV-PG-106-16-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-106-16-3B-01 piping	Unable to control the fluid in PG-106-16-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-3-VLV-FL-106-3-1B	3" BALL VALVE MANUAL	To control the fluid in FL-106-3-1B piping	Unable to control the fluid in FL-106-3-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-4-VLV-PG-112-6-3B	4" CHECK VALVE MANUAL	To control the fluid in PG-112-6-3B piping	Unable to control the fluid in PG-112-6-3B piping on demand	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM
0301MS-0.75-VLV-PG-115-10-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-115-10-3B-01 piping	Unable to control the fluid in PG-115-10-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0301MS-0.75-VLV-PG-118A-2-3B-01	0.75" BALL VALVE MANUAL	To control the fluid in PG-118A-2-3B-01 piping	Unable to control the fluid in 3 PG-118A-2-3B-01 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-FG-105-3-1B-02	2" BALL VALVE MANUAL	To control the fluid in FG-105-3-1B-02 piping	Unable to control the fluid in 3 FG-105-3-1B-02 piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-UG-105-3-1B-04	2" BALL VALVE MANUAL	To control the fluid in UG-105-3-1B-04 piping	Unable to control the fluid in 3 UG-105-3-1B-04 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-UG-105-3-1B-03	2" BALL VALVE MANUAL	To control the fluid in UG-105-3-1B-03 piping	Unable to control the fluid in 3 UG-105-3-1B-03 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-UG-105-3-1B-02	2" BALL VALVE MANUAL	To control the fluid in UG-105-3-1B-02 piping	Unable to control the fluid in 3 UG-105-3-1B-02 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-UG-105-3-1B-01	2" GATE VALVE MANUAL	To control the fluid in UG-105-3-1B-01 piping	Unable to control the fluid in 3 UG-105-3-1B-01 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-PG-118A-2-3B-03	2" BALL VALVE MANUAL	To control the fluid in PG-118A-2-3B-03 piping	Unable to control the fluid in 3 PG-118A-2-3B-03 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-8-VLV-PG-106-16-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-106-16-3B-02 piping	Unable to control the fluid in 3 PG-106-16-3B-02 piping on demand	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

0301MS-2-VLV-FG-105-3-1B-03	2" BALL VALVE MANUAL	To control the fluid in FG-105-3-1B-03 piping	Unable to control the fluid in FG-105-3-1B-03 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-0.75-VLV-PG-118A-2-3B-02	0.75" BALL VALVE MANUAL	To control the fluid in PG-118A-2-3B-02 piping	Unable to control the fluid in PG-118A-2-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-FG-105-3-1B-01	2" BALL VALVE MANUAL	To control the fluid in FG-105-3-1B-01 piping	Unable to control the fluid in FG-105-3-1B-01 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0301MS-2-VLV-DL-104-2-1B	2" BALL VALVE	To control the fluid in DL-104-2-1B piping	Unable to control the fluid in DL-104-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301MS-1-VLV-DL-102-2-1B-03	1" BALL VALVE MANUAL	To control the fluid in DL-102-2-1B-03 piping	Unable to control the fluid in DL-102-2-1B-03 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301MS-1-VLV-DL-102-2-1B-02	1" BALL VALVE MANUAL	To control the fluid in DL-102-2-1B-02 piping	Unable to control the fluid in DL-102-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301MS-1-VLV-DL-102-2-1B-01	1" BALL VALVE MANUAL	To control the fluid in DL-102-2-1B-01 piping	Unable to control the fluid in DL-102-2-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0301MS-10-VLV-PG-118-10-3B	10" MANUAL GATE VALVE	To control the fluid in PG-118-10-3B piping	Unable to control the fluid in PG-118-10-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

0301MS-2-VLV-PG-118A-2-3B-01	2" BALL VALVE MANUAL	To control the fluid in PG-118A-2-3B-01 piping	Unable to control the fluid in PG-118A-2-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**03**
SECTION/SYSTEM	**COMPRESSING SYSTEM**
ID Level 6	**0301**
EQUIPMENT TAG	**C-390**
EQUIPMENT NAME	**GAS COMPRESSOR**
ID level 7	**0301MT**
SUBUNIT	**MAIN TASK C-390**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301MT-C-390	GAS COMPRESSORS RENTAL	Raises the pressure vessel of the gas outlet from the LP Separators V-110B	Unable to raises the pressure vessel of the gas outlet from the LP Separators V-110B	4	Once Per >1- 5 years	4	Medical Treatment With LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**03**
SECTION/SYSTEM	**COMPRESSING SYSTEM**
ID Level 6	**0301**
EQUIPMENT TAG	**C-390**
EQUIPMENT NAME	**GAS COMPRESSOR**
ID level 7	**0301OF**
SUBUNIT	**OTHER FUNCTION C-390**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0301OF-4x3-RDC-C-390	4"x3" REDUCER	Transfer fluid from C-390	Unable to transfer fluid from C-390	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0301OF-10x6-RDC-PG-113-6-3B	10"x6" REDUCER	Transfer fluid in PG-113-6-3B	Unable to transfer fluid in PG-113-6-3B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	L	CM
0301OF-4x3-RDC-FL-106-3-1B	4"x3" REDUCER	Transfer fluid in FL-106-3-1B	Unable to transfer fluid in FL-106-3-1B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0301OF-6x4-RDC-PG-112-6-3B	6"x4" REDUCER	Transfer fluid PG-112-6-3B	Unable to transfer fluid PG-112-6-3B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM
0301OF-8x16 RDC-PG-105-6-3B	8"x16" REDUCER	Transfer fluid in PG-105-6-3B	Unable to transfer fluid in PG-105-6-3B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	3	Environmental impact notable lasting environmental damage (Tier 1)	3	Gas leak (1-<5 MMSCFD)	L	CM

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401CM**
SUBUNIT	**CONTAINMENT FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401CM-PG-125-12-3B-02	12" PIPING	Transfer fluid from GDU OUTLET HEADER to PG-126-12-3B	Unable to transfer fluid from GDU OUTLET HEADER to PG-126-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-126-12-3B	12" PIPING	Transfer fluid from PG-125-12-3B to PG-127-8-3B	Unable to transfer fluid from PG-125-12-3B to PG-127-8-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401CM-PG-127-8-3B	8" PIPING	Transfer fluid from PG-126-12-3B to PG-132-12-3B	Unable to transfer fluid from PG-126-12-3B to PG-132-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-129-8-3B	8" PIPING	Transfer fluid from PG-116-10-3B to PG-113-12-3B	Unable to transfer fluid from PG-116-10-3B to PG-113-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-131-8-3B	8" PIPING	Transfer fluid from PG-132-12-3B to PG-133-12-3B	Unable to transfer fluid from PG-132-12-3B to PG-133-12-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-132-12-3B	12" PIPING	Transfer fluid from PG-127-8-3B to PG-116-10-3B	Unable to transfer fluid from PG-127-8-3B to PG-116-10-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-133-12-3B	12" PIPING	Transfer fluid from PG-131-8-3B to PGN	Unable to transfer fluid from PG-131-8-3B to PGN accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM
0401CM-PG-116-10-3B	10" PIPING	Transfer fluid from PID 23-005-002A to PG-129-8-3B	Unable to transfer fluid from PID 23-005-002A to PG-129-8-3B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	4	Gas Leak (5-10 MMSCFD)	L	CM

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401CN**
SUBUNIT	**CONTROLLING FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401CN-PS-104	PRESSURE SWITCH	To monitor level of the fluid of Custody Flow Meter FM-102	Unable to monitor level of the fluid of Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401CN-PS-103	PRESSURE SWITCH	To monitor level of the fluid of Custody Flow Meter FM-102	Unable to monitor level of the fluid of Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401CN-PCV-102	8" PRESSURE CONTROL VALVE	To control operating pressure of PG-129-8-3B from FM-102	Unable to control operating pressure of PG-129-8-3B from FM-102	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM
0401CN-PCV-101	8" PRESSURE CONTROL VALVE	To control operating pressure of PG-131-8-3B from FM-102	Unable to control operating pressure of PG-131-8-3B from FM-102	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401LI**
SUBUNIT	**LOCAL INDICATION FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401LI-I/P-PCV-102	TRANSDUCER	To monitor gas pressure from Custody Flow Meter FM-102	Unable to monitor gas pressure from Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401LI-FE-102	FLOW ELEMENT	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401LI-FQI-102	FLOW QUANTITY INDICATOR	To provide local indication of the Custody Flow Meter FQI-102 gasflow	Unable to provide local indication of the Custody Flow Meter FQI-102 gas flow	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401LI-I/P-PCV-101	TRANSDUCER	To monitor gas pressure from Custody Flow Meter FM-102	Unable to monitor gas pressure from Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401LI-PT-102	PRESSURE TRANSMITTER	To monitor gas pressure of Custody Flow Meter FM-102	Unable to monitor gas pressure of Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401LI-TT-102	TEMPERATURE TRANSMITTER	To monitor gas inlet temperature to Custody Flow Meter FM-102	Unable to monitor gas inlet temperature to Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401LI-FT-102	FLOW TRANSMITTER	To monitor gas flow to Custody Flow Meter FQI-102	Unable to monitor gas flow to Custody Flow Meter FQI-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401MN**
SUBUNIT	**MONITORING FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401MN-FR-102-01	FLOW RECORDER	To record gas temperature of Custody Flow Meter FM-102	Unable to record gas temperature of Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401MN-FR-102-02	FLOW RECORDER	To record gas temperature of Custody Flow Meter FM-102	Unable to record gas temperature of Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401MN-PA-103	PRESSURE ALARM	To give information or warning about high pressure in PG-133-12-3B	Unable to give information or warning about high pressure in PG-133-12-3B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401MN-PA-104	PRESSURE ALARM	To give information or warning about high level fluid in Custody Flow Meter FQI-102	Unable to give information or warning about high level fluid in Custody Flow Meter FQI-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401MN-TI-102	TEMPERATURE INDICATOR	To monitor gas temperature of PG-133-12-3B	Unable to monitor gas temperature of PG-133-12-3B	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401MN-TR-102	TEMPERATURE RECORDER	To record gas temperature of Custody Flow Meter FM-102	Unable to record gas temperature of Custody Flow Meter FM-102	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401MS**
SUBUNIT	**MANUAL SHUTDOWN FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401MS-8-VLV-PG-131-8-3B-02	8" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-02 piping	Unable to control the fluid in PG-131-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401MS-0.75-VLV-PG-129-8-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-129-8-3B-01 piping	Unable to control the fluid in PG-129-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-129-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-129-8-3B-01 piping	Unable to control the fluid in PG-129-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-127-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-127-8-3B-03 piping	Unable to control the fluid in PG-127-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-127-8-3B-02	8" CHECK VALVE	To control the fluid in PG-127-8-3B-02 piping	Unable to control the fluid in PG-127-8-3B-02 piping on demand	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM
0401MS-8-VLV-PG-127-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-127-8-3B-01 piping	Unable to control the fluid in PG-127-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-6-VLV-PG-131-8-3B	6" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B piping	Unable to control the fluid in PG-131-8-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-10-VLV-PG-1116-10-3B	10" BALL VALVE MANUAL	To control the fluid in PG-1116-10-3B piping	Unable to control the fluid in PG-1116-10-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-133-12-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-133-12-3B-02 piping	Unable to control the fluid in PG-133-12-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401MS-0.75-VLV-PG-133-12-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-133-12-3B-01 piping	Unable to control the fluid in PG-133-12-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-132-12-3B-04	3/4" BALL VALVE MANUAL	To control the fluid in PG-132-12-3B-04 piping	Unable to control the fluid in PG-132-12-3B-04 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-132-12-3B-03	3/4" BALL VALVE MANUAL	To control the fluid in PG-132-12-3B-03 piping	Unable to control the fluid in PG-132-12-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-131-8-3B-03	3/4" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-03 piping	Unable to control the fluid in PG-131-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-131-8-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-02 piping	Unable to control the fluid in PG-131-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-131-8-3B-04	8" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-04 piping	Unable to control the fluid in PG-131-8-3B-04 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-129-8-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-129-8-3B-02 piping	Unable to control the fluid in PG-129-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-126-12-3B-02	3/4" BALL VALVE MANUAL	To control the fluid in PG-126-12-3B-02 piping	Unable to control the fluid in PG-126-12-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0401MS-0.75-VLV-PG-126-12-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-126-12-3B-01 piping	Unable to control the fluid in PG-126-12-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-129-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-129-8-3B-03 piping	Unable to control the fluid in PG-129-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-131-8-3B-01	8" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-01 piping	Unable to control the fluid in PG-131-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-129-8-3B-02	8" BALL VALVE MANUAL	To control the fluid in PG-129-8-3B-02 piping	Unable to control the fluid in PG-129-8-3B-02 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-131-8-3B-03	8" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-03 piping	Unable to control the fluid in PG-131-8-3B-03 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-8-VLV-PG-132-12-3B	8" BALL VALVE MANUAL	To control the fluid in PG-132-12-3B piping	Unable to control the fluid in PG-132-12-3B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0401MS-0.75-VLV-PG-131-8-3B-01	3/4" BALL VALVE MANUAL	To control the fluid in PG-131-8-3B-01 piping	Unable to control the fluid in PG-131-8-3B-01 piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0401MT**
SUBUNIT	**MAIN TASK FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401MT-FM-102	CUSTODY FLOW METER	Record Gas Flow From GDU to consumer	Unable to record Gas Flow From GDU to consumer	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401OF**
SUBUNIT	**OTHER FUNCTION FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401OF-TW-102	THERMOWELL	To monitor gas inlet temperature to Custody Flow Meter FM-102	Unable to monitor gas inlet temperature to Custody Flow Meter FM-102	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0401OF-10x8-RDC-PG-116-10-3B	10"x8" REDUCER	Transfer fluid in PG-116-10-3B	Unable to transfer fluid in PG-116-10-3B	2	Less then Once per 15 years	1	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM
0401OF-8x6-RDC-PG-116-10-3B	8"x6" REDUCER	Transfer fluid in PG-116-10-3B	Unable to transfer fluid in PG-116-10-3B	2	Less then Once per 15 years	1	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	3	Gas leak (1-<5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	**04**
SECTION/SYSTEM	**GAS EXPORT SYSTEM**
ID Level 6	**0401**
EQUIPMENT TAG	**FM-102**
EQUIPMENT NAME	**CUSTODY FLOW METER**
ID level 7	**0401SP**
SUBUNIT	**SHUTDOWN PROCESS FM-102**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0401SP-SDV-200	SHUTDOWN VALVE	To stop the flow of a fluid from FM-102	Unable to stop the flow of a fluid from FM-102	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM
0401SP-SDV-102	SHUTDOWN VALVE	To stop the flow of a fluid from FM-102	Unable to stop the flow of a fluid from FM-102	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501CM**
SUBUNIT	**CONTAINMENT F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE				CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501CM-FG-107-1-1B	1" PIPING	Transfer fluid from FG-009-2-1B to PILOT FLARE STACK (FL-320B)	Unable to transfer fluid from FG-009-2-1B to PILOT FLARE STACK (FL-320B) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

0501CM-FG-006-1-1B	1" PIPING	Transfer fluid from FG-005-2-1B to BLANKET GLYCOL GAS TO GLYCOL FLASH SEPARATOR (V-280)	Unable to transfer fluid from FG-005-2-1B to BLANKET GLYCOL GAS TO GLYCOL FLASH SEPARATOR (V-280)	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FL-004-2-1B	2" PIPING	Transfer fluid from F-301 to FLARE HEADER	Unable to transfer fluid from F-301 to FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-UG-101-3-3B	3" PIPING	Transfer fluid from FG-001-3-3B to UTILITY GAS RECEIVER	Unable to transfer fluid from FG-001-3-3B to UTILITY GAS RECEIVER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-XXX-3-1B	3" PIPING	Transfer fluid from FG-003A-3-1B to PURGE GAS	Unable to transfer fluid from FG-003A-3-1B to PURGE GAS accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-106-2-1B	2" PIPING	Transfer fluid from FG-003A-3-1B to FUEL GAS TO GLYCOL REGENERATOR (G-550)	Unable to transfer fluid from FG-003A-3-1B to FUEL GAS TO GLYCOL REGENERATOR (G-550) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-103-2-1B	2" PIPING	Transfer fluid from FG-106-2-B to BLANKET GAS TO GLYCOL FLASH SEPARATOR (V-580)	Unable to transfer fluid from FG-106-2-B to BLANKET GAS TO GLYCOL FLASH SEPARATOR (V-580)	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-101-3-1B	3" PIPING	Transfer fluid from FG-003-1-1B to FUEL GAS FILTER (F-302)	Unable to transfer fluid from FG-003-1-1B to FUEL GAS FILTER (F-302) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-009-2-1B	2" PIPING	Transfer fluid from FG-003-1-1B to PILOT FLARE STACK (FL-320A)	Unable to transfer fluid from FG-003-1-1B to PILOT FLARE STACK (FL-320A) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0501CM-FG-007-1-1B	1" PIPING	Transfer fluid from FG-003-1-1B to FUEL GAS TO GLYCOL REGENERATOR (G-250)	Unable to transfer fluid from FG-003-1-1B to FUEL GAS TO GLYCOL REGENERATOR (G-250) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-005-2-1B	2" PIPING	Transfer fluid from FG-003A-3-1B to BLANKET GAS TO LIQUID TANK (V-13- & V-140)	Unable to transfer fluid from FG-003A-3-1B to BLANKET GAS TO LIQUID TANK (V-13- & V-140) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-003-3-1B	3" PIPING	Transfer fluid from FG-003A-3-1B to FG-007-1-1B	Unable to transfer fluid from FG-003A-3-1B to FG-007-1-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-002-3-1B	3" PIPING	Transfer fluid from FG-003A-3-1B to F-301	Unable to transfer fluid from FG-003A-3-1B to F-301 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-008-1-1B	1" PIPING	Transfer fluid from FG-007-1-1B to BLANKET GAS TO GLYCOL TANK (V-160)	Unable to transfer fluid from FG-007-1-1B to BLANKET GAS TO GLYCOL TANK (V-160) accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-001-3-3B	3" PIPING	Transfer fluid from DRY GAS FROM DEHYDRATION UNITS HEADER to F-301	Unable to transfer fluid from DRY GAS FROM DEHYDRATION UNITS HEADER to F-301 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CM-FG-003A-3-1B	3" PIPING	Transfer fluid from FG-002-3-1B to FG-005-2-1B	Unable to transfer fluid from FG-002-3-1B to FG-005-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0501CN**
SUBUNIT	**CONTROLLING F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501CN-PSHL-301-02	PRESSURE SWITCH (HIGH/LOW)	To prevent high level of fluid from Fuel Gas Scrubber F-301 upon detection of LSD signal	Unable to prevent High level of fluid from Fuel Gas Scrubber F-301 upon detection of LSD signal	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0501CN-PSHL-301-01	PRESSURE SWITCH (HIGH/LOW)	To prevent high level of fluid from Fuel Gas Scrubber F-301 upon detection of LSD signal	Unable to prevent High level of fluid from Fuel Gas Scrubber F-301 upon detection of LSD signal	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501LI**
SUBUNIT	**LOCAL INDICATION F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501LI-PI-301	PRESSURE INDICATOR	To provide local indication of the Fuel Gas Scrubber F-301 gas pressure	Unable to provide local indication of the Fuel Gas Scrubber F-301 gas pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0501LI-PT-301	PRESSURE TRANSMITTER	To monitor fluid pressure to Fuel Gas Scrubber F-301	To monitor fluid pressure to Fuel Gas Scrubber F-301	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0501LI-LG-301	LEVEL GAUGE	To provide local level indication of the gas from Fuel Gas Scrubber F-301	Unable to provide local level indication of the gas from Fuel Gas Scrubber F-301	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501MS**
SUBUNIT	**MANUAL SHUTDOWN F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501MS-1-VLV-FG-107-1-1B	1" GATE VALVE MANUAL	To control the fluid in FG-107-1-1B piping	Unable to control the fluid in FG-107-1-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-1-VLV-FG-007-1-1B	1" BALL VALVE MANUAL	To control the fluid in FG-007-1-1B piping	Unable to control the fluid in FG-007-1-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-0.75-VLV-F-301	3/4" BALL VALVE MANUAL	To take action of fluid in F-301	Unable to take action of fluid in F-301	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-1.5-VLV-F-301-01	1 1/2" BALL VALVE MANUAL	To take action of fluid in F-301	Unable to take action of fluid in F-301	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-1.5-VLV-F-301-02	1 1/2" BALL VALVE MANUAL	To take action of fluid in F-301	Unable to take action of fluid in F-301	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0501MS-3-VLV-FG-101-3-1B	3" BALL VALVE MANUAL	To control the fluid in FG-101-3-1B piping	Unable to control the fluid in FG-101-3-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-003A-3-1B-02	3" BALL VALVE MANUAL	To control the fluid in FG-003A-3-1B-02 piping	Unable to control the fluid in FG-003A-3-1B-02 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-002-3-1B	3" BALL VALVE MANUAL	To control the fluid in FG-002-3-1B piping	Unable to control the fluid in FG-002-3-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-1.5-VLV-F-301-03	1 1/2" BALL VALVE MANUAL	To take action of fluid in F-301	Unable to take action of fluid in F-301	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-003A-3-1B-01	3" BALL VALVE MANUAL	To control the fluid in FG-003A-3-1B-01 piping	Unable to control the fluid in FG-003A-3-1B-01 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-003-3-1B	3" BALL VALVE MANUAL	To control the fluid in FG-003-3-1B piping	Unable to control the fluid in FG-003-3-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-001-3-3B-03	3" BALL VALVE MANUAL	To control the fluid in FG-001-3-3B-03 piping	Unable to control the fluid in FG-001-3-3B-03 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-3-VLV-FG-001-3-3B-02	3" BALL VALVE MANUAL	To control the fluid in FG-001-3-3B-02 piping	Unable to control the fluid in FG-001-3-3B-02 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0501MS-3-VLV-FG-001-3-3B-01	3" BALL VALVE MANUAL	To control the fluid in FG-001-3-3B-01 piping	Unable to control the fluid in 3 FG-001-3-3B-01 piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-2-VLV-FG-106-2-1B	2" BALL VALVE MANUAL	To control the fluid in FG-106-2-1B piping	Unable to control the fluid in 3 FG-106-2-1B piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-2-VLV-FG-009-2-1B	2" BALL VALVE MANUAL	To control the fluid in FG-009-2-1B piping	Unable to control the fluid in 3 FG-009-2-1B piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0501MS-2-VLV-FG-005-2-1B	2" BALL VALVE MANUAL	To control the fluid in FG-005-2-1B piping	Unable to control the fluid in 3 FG-005-2-1B piping on demand	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501MT**
SUBUNIT	**MAIN TASK F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501MT-F-301	FUEL GAS SCRUBBER	Filtering Fuel Gas from other contaminant	Unable to Filtering Fuel Gas from other contaminant	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	H	PM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501OF**
SUBUNIT	**OTHER FUNCTION F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501OF-2x3-RDC-FG-001-3-3B-02	2"x3" REDUCER	Transfer fluid in FG-001-3-3B-02	Unable to transfer fluid in FG-1001-3-3B-02		Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	L	CM
0501OF-2x3-RDC-FG-001-3-3B-01	2"x3" REDUCER	Transfer fluid FG-001-3-3B-01	Unable to transfer fluid FG-001-3-3B-01	1	Less then Once per 15 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0501**
EQUIPMENT TAG	**F-301**
EQUIPMENT NAME	**FUEL GAS SCRUBBER**
ID level 7	**0501PR**
SUBUNIT	**PRESSURE RELIEF F-301**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0501PR-PSV-301	PRESSURE SAFETY VALVE	To provide overpressure protection for the Fuel Gas Scrubber F-301 by relieving at 250 psig	Unable to provide overpressure protection for the Fuel Gas Scrubber F-301 by relieving at 250 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	2	Gas leak (0,5-<1 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0502**
EQUIPMENT TAG	**V-230**
EQUIPMENT NAME	**DRIP FUEL GAS**
ID level 7	**0502CM**
SUBUNIT	**CONTAINMENT V-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502CM-FL-035-1-1B-02	1" PIPING	Transfer fluid from FG-007-1-1B to FL-025-4-1B	Unable to transfer fluid from FG-007-1-1B to FL-025-4-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0502CM-DL-003-1-1B	1" PIPING	Transfer fluid from V-230 to LIQUID TO CLOSE DRAIN	Unable to transfer fluid from V-230 to LIQUID TO CLOSE DRAIN accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0502**
EQUIPMENT TAG	**V-230**
EQUIPMENT NAME	**DRIP FUEL GAS**
ID level 7	**0502CN**
SUBUNIT	**CONTROLLING V-230**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502CN-PCV-251	2" PRESSURE CONTROL VALVE	To control operating pressure of Drip Fuel Gas V-230 at 15 psig	Unable to control operating pressure of Drip Fuel Gas V-230 at 15 psig	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	0502
EQUIPMENT TAG	V-230
EQUIPMENT NAME	DRIP FUEL GAS
ID level 7	0502LI
SUBUNIT	LOCAL INDICATION V-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502LI-PI-251-2	PRESSURE INDICATOR	To provide local indication of the Drip Fuel Gas V-230 gas outlet pressure	Unable to provide local indication of the Drip Fuel Gas V-230 gas outlet pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	05
SECTION/SYSTEM	FUEL GAS SYSTEM
ID Level 6	0502
EQUIPMENT TAG	V-230
EQUIPMENT NAME	DRIP FUEL GAS
ID level 7	0502MN
SUBUNIT	MONITORING V-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502MN-SY-251-2	SPEED COMPUTER	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	05
SECTION/SYSTEM	FUEL GAS SYSTEM
ID Level 6	0502
EQUIPMENT TAG	V-230
EQUIPMENT NAME	DRIP FUEL GAS

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7 0502MS

SUBUNIT MANUAL SHUTDOWN V-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502MS-1-VLV-V-230-03	1" BALL VALVE MANUAL	To take action of fluid in V-230	Unable to take action of fluid in V-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-0.5-VLV-V-230-05	1/2" GATE VALVE MANUAL	To take action of fluid in V-230	Unable to take action of fluid in V-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-0.75-VLV-FL-035-1-1B	3/4" GATE VALVE MANUAL	To control the fluid in FL-035-1-1B piping	Unable to control the fluid in FL-035-1-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-1-VLV-FL-035-1-1B	1" GATE VALVE MANUAL	To control the fluid in FL-035-1-1B piping	Unable to control the fluid in FL-035-1-1B piping on demand	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-1-VLV-V-230-02	1" BALL VALVE MANUAL	To take action of fluid in V-230	Unable to take action of fluid in V-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-1-VLV-V-230-04	1" BALL VALVE MANUAL	To take action of fluid in V-230	Unable to take action of fluid in V-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0502MS-1-VLV-V-230-01	1" BALL VALVE MANUAL	To take action of fluid in V-230	Unable to take action of fluid in V-230	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	05
SECTION/SYSTEM	FUEL GAS SYSTEM
ID Level 6	0502
EQUIPMENT TAG	V-230
EQUIPMENT NAME	DRIP FUEL GAS
ID level 7	0502MT
SUBUNIT	MAIN TASK V-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502MT-V-230	DRIP POT/FUEL GAS	Catching liquid waste from Glycol Regenerator G-250	Unable to catching liquid waste from Glycol Regenerator G-250	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	05
SECTION/SYSTEM	FUEL GAS SYSTEM
ID Level 6	0502
EQUIPMENT TAG	V-230
EQUIPMENT NAME	DRIP FUEL GAS
ID level 7	0502PR
SUBUNIT	PRESSURE RELIEF V-230

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0502PR-PSV-252	PRESSURE SAFETY VALVE	To provide overpressure protection for the Drip Fuel Gas by relieving at 75 psig	Unable to provide overpressure protection for the Drip Fuel Gas by relieving at 75 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	05
SECTION/SYSTEM	FUEL GAS SYSTEM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0503**
EQUIPMENT TAG	**F-302**
EQUIPMENT NAME	**FUEL GAS FILTER**
ID level 7	**0503CM**
SUBUNIT	**CONTAINMENT F-302**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0503CM-FG-102-1.5-1B	1 1/2" PIPING	Transfer fluid from F-302 to FL-106-2-1B	Unable to transfer fluid from F-302 to FL-106-2-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0503CM-FL-106-2-1B	2" PIPING	Transfer fluid from FG-102-1.5-B to LP FLARE HEADER	Unable to transfer fluid from FG-102-1.5-B to LP FLARE HEADER accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0503**
EQUIPMENT TAG	**F-302**
EQUIPMENT NAME	**FUEL GAS FILTER**
ID level 7	**0503MS**
SUBUNIT	**MANUAL SHUTDOWN F-302**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0503MS-3-VLV-FG-101-3-1B-02	3" BALL VALVE MANUAL	To control the fluid in FG-101-3-1B-02 piping	Unable to control the fluid in FG-101-3-1B-02 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

0503MS-0.5-VLV-F-302	1/2" GATE VALVE	To take action of fluid in F-302	Unable to take action of fluid in F-302	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	2	Notable but limited environmental impact	3	Gas leak (1-<5 MMSCFD)	M	PM IF APPROPRIATE
0503MS-1.5-VLV-FG-102-1.5-1B	1 1/2" BALL VALVE MANUAL	To control the fluid in FG-102-1.5-1B piping	Unable to control the fluid in FG-102-1.5-1B piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0503MS-3-VLV-FG-101-3-1B-01	3" BALL VALVE MANUAL	To control the fluid in FG-101-3-1B-01 piping	Unable to control the fluid in FG-101-3-1B-01 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0503MS-3-VLV-FG-101-3-1B-03	3" BALL VALVE MANUAL	To control the fluid in FG-101-3-1B-03 piping	Unable to control the fluid in FG-101-3-1B-03 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**
ID Level 6	**0503**
EQUIPMENT TAG	**F-302**
EQUIPMENT NAME	**FUEL GAS FILTER**
ID level 7	**0503MT**
SUBUNIT	**MAIN TASK F-302**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0503MT-F-302	FUEL GAS FILTER	Filtering Fuel Gas from other contaminant	Unable to Filtering Fuel Gas from other contaminant	4	Once Per >1- 5 years	1	Injury Without Treatment	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	H	PM

ID LEVEL 5	**05**
SECTION/SYSTEM	**FUEL GAS SYSTEM**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0503**
EQUIPMENT TAG	**F-302**
EQUIPMENT NAME	**FUEL GAS FILTER**
ID level 7	**0503PR**
SUBUNIT	**PRESSURE RELIEF F-302**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0503PR-PSV-302	PRESSURE SAFETY VALVE	To provide overpressure protection for the Fuel Gas Filter F-302 by relieving at 325 psig	Unable to provide overpressure protection for the Fuel Gas Filter F-302 by relieving at 325 psig	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0601**
EQUIPMENT TAG	**C-310B**
EQUIPMENT NAME	**AIR COMPRESSOR**
ID level 7	**0601CM**
SUBUNIT	**CONTAINMENT C-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0601CM-IA-032-1-1B	1" PIPING	Transfer fluid from C-310B to IA-002-1-1B	Unable to transfer fluid from C-310B to IA-002-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-008-2-1B	2" PIPING	Transfer fluid from IA-032-1-1B to IA-MNF-001	Unable to transfer fluid from IA-032-1-1B to IA-MNF-001 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

0601CM-IA-028-2-1B	2" PIPING	Transfer fluid from IA-MNF-001 to IA-009-1-1B	Unable to transfer fluid from IA-MNF-001 to IA-009-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-PA-001-2-1B	2" PIPING	Transfer fluid from IA-MNF-001 to PLANT AIR	Unable to transfer fluid from IA-MNF-001 to PLANT AIR accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-002-1-1B	1" PIPING	Transfer fluid from IA-032-1-1B to IA-003-1-1B	Unable to transfer fluid from IA-032-1-1B to IA-003-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-007-1-1B	1" PIPING	Transfer fluid from IA-006-1-1B to C-310B	Unable to transfer fluid from IA-006-1-1B to C-310B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-009-1-1B	1" PIPING	Transfer fluid from FROM PORTABLE AIR COMPRESSOR to IA-028-1-1B	Unable to transfer fluid from FROM PORTABLE AIR COMPRESSOR to IA-028-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-006-1-1B	1" PIPING	Transfer fluid from LOCAL PANEL to IA-007-1-1B	Unable to transfer fluid from LOCAL PANEL to IA-007-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-005-1-1B	1" PIPING	Transfer fluid from IA-004-1-1B to LOCAL PANEL	Unable to transfer fluid from IA-004-1-1B to LOCAL PANEL accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601CM-IA-004-1-1B	1" PIPING	Transfer fluid from IA-003-1-1B to IA-005-1-1B	Unable to transfer fluid from IA-003-1-1B to IA-005-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0601CM-IA-003-1-1B	1" PIPING	Transfer fluid from IA-002-1-1B to IA-004-1-1B	Unable to transfer fluid from IA-002-1-1B to IA-004-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0601**
EQUIPMENT TAG	**C-310B**
EQUIPMENT NAME	**AIR COMPRESSOR**
ID level 7	**0601MS**
SUBUNIT	**MANUAL SHUTDOWN C-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0601MS-2-VLV-IA-028-2-1B	2" BALL VALVE MANUAL	To control the fluid in IA-028-2-1B piping	Unable to control the fluid in IA-028-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0601MS-1-VLV-IA-001-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-001-1-1B piping	Unable to control the fluid in IA-001-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0601**
EQUIPMENT TAG	**C-310B**
EQUIPMENT NAME	**AIR COMPRESSOR**
ID level 7	**0601MT**
SUBUNIT	**MAIN TASK C-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0601MT-C-310B	AIR COMPRESSOR	Provide Air Supply to Air Receiver V-310	Unable to provide Air Supply to Air Receiver V-310	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0601**
EQUIPMENT TAG	**C-310B**
EQUIPMENT NAME	**AIR COMPRESSOR**
ID level 7	**0601OF**
SUBUNIT	**OTHER FUNCTION C-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0601OF-2x1-RDC-IA-028-1-1B	2"x1" REDUCER	Transfer fluid in IA-028-1-1B	Unable to transfer fluid in IA-028-1-1B	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602CM**
SUBUNIT	**CONTAINMENT M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0602CM-IA-031-1-1B	1" PIPING	Transfer fluid from IA-024-1-1B to IA-026-1-1B	Unable to transfer fluid from IA-024-1-1B to IA-026-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0602CM-IA-025-1-1B	1" PIPING	Transfer fluid from V-310 to IA-027-1-1B	Unable to transfer fluid from V-310 to IA-027-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-001-1-1B	1" PIPING	Transfer fluid from IA-026-1-1B to INSTRUMENT AIR	Unable to transfer fluid from IA-026-1-1B to INSTRUMENT AIR accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-023-1-1B	1" PIPING	Transfer fluid from IA-022-1-1B to V-310	Unable to transfer fluid from IA-022-1-1B to V-310 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-024-1-1B	1" PIPING	Transfer fluid from IA-022-1-1B to IA-031-1-1B	Unable to transfer fluid from IA-022-1-1B to IA-031-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-027-1-1B	1" PIPING	Transfer fluid from IA-025-1-1B to IA-030-1-1B	Unable to transfer fluid from IA-025-1-1B to IA-030-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-030-1-1B	1" PIPING	Transfer fluid from IA-027-1-1B to IA-026-1-1B	Unable to transfer fluid from IA-027-1-1B to IA-026-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-029-1-1B	1' PIPING	Transfer fluid from V-310 to	Unable to transfer fluid from V-310 to - accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CM-IA-026-1-1B	1" PIPING	Transfer fluid from IA-025-1-1B to 1A-001-1-1B	Unable to transfer fluid from IA-025-1-1B to 1A-001-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5 06

SECTION/SYSTEM INSTRUMENT AIR SYSTEM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602CN**
SUBUNIT	**CONTROLLING M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0602CN-1-BPR-002	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602CN-1-BPR-001	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602LI**
SUBUNIT	**LOCAL INDICATION M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0602LI-PI-310	PRESSURE INDICATOR	To provide local indication of the Air Receiver V-310 fluid pressure	Unable to provide local indication of the Air Receiver V-310 fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0602LI-PI-311	PRESSURE INDICATOR	To provide local indication of the Air Receiver V-310 fluid pressure	Unable to provide local indication of the Air Receiver V-310 fluid pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602LI-PT-310	PRESSURE TRANSMITTER	To monitor fluid Air Receiver V-310	Unable to monitor fluid Air Receiver V-310	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602MN**
SUBUNIT	**MONITORING M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0602MN-PAL-310	PRESSURE ALARM LOW	To give information or warning about low level fluid in Air Receiver V-310	Unable to give information or warning about low level fluid in Air Receiver V-310	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602MS**
SUBUNIT	**MANUAL SHUTDOWN M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0602MS-0.75-VLV-IA-026-1-1B	0.75" BALL VALVE MANUAL	To control the fluid in IA-026-1-1B piping	Unable to control the fluid in IA-026-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602MS-1-VLV-IA-026-1-1B-01	1" BALL VALVE MANUAL	To control the fluid in IA-026-1-1B-01 piping	Unable to control the fluid in IA-026-1-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602MS-1-VLV-IA-026-1-1B-02	1" BALL VALVE MANUAL	To control the fluid in IA-026-1-1B-02 piping	Unable to control the fluid in IA-026-1-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602MS-1-VLV-IA-027-1-1B-01	1" BALL VALVE MANUAL	To control the fluid in IA-027-1-1B-01 piping	Unable to control the fluid in IA-027-1-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602MS-1-VLV-IA-027-1-1B-02	1" BALL VALVE MANUAL	To control the fluid in IA-027-1-1B-02 piping	Unable to control the fluid in IA-027-1-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0602MS-1-VLV-IA-029-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-029-1-1B piping	Unable to control the fluid in IA-029-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602MT**
SUBUNIT	**MAIN TASK M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0602MT-V-310	AIR RECEIVER	Received Air from Air Compressor V-310 and Provide Air Supply to Plant	Unable to Received Air from Air Compressor V-310 and Unable to Provide Air Supply to Plant	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	1	Have no nuisance effect at surround area	5	Gas Leak (>10 MMSCFD)	H	PM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0602**
EQUIPMENT TAG	**V-310**
EQUIPMENT NAME	**AIR RECEIVER**
ID level 7	**0602PR**
SUBUNIT	**PRESSURE RELIEF M-310B**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0602PR-PSV-311	PRESSURE SAVETY VALVE	To provide overpressure protection for the Air Receiver PSV-311	Unable to provide overpressure protection for the Air Receiver PSV-311	3	Once per > 5-10 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	4	Gas Leak (5-10 MMSCFD)	H	PM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0603**
EQUIPMENT TAG	**F-PRF-01**
EQUIPMENT NAME	**PRE FILTER A**
ID level 7	**0603CM**
SUBUNIT	**CONTAINMENT F-PRF-01**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0603CM-IA-016-1-1B	1" PIPING	Transfer fluid from IA-015-1-1B to IA-DRF	Unable to transfer fluid from IA-015-1-1B to IA-DRF accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0603CM-IA-DRF-001	DRYER REFRIGRAN	Transfer fluid from 0 to 0	Unable to transfer fluid from 0 to 0 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-010-1-1B	1" PIPING	Transfer fluid from IA-MNF-001 to IA-011-1-1B	Unable to transfer fluid from IA-MNF-001 to IA-011-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-011-1-1B	1" PIPING	Transfer fluid from IA-010-1-1B to IA-016-1-1B	Unable to transfer fluid from IA-010-1-1B to IA-016-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-012-1-1B	1" PIPING	Transfer fluid from IA-011-1-1B to IA-013-1-1B	Unable to transfer fluid from IA-011-1-1B to IA-013-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-013-1-1B	1" PIPING	Transfer fluid from IA-012-1-1B to IA-PRF-001	Unable to transfer fluid from IA-012-1-1B to IA-PRF-001 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-014-1-1B	1" PIPING	Transfer fluid from IA-PRF-001 to IA-015-1-1B	Unable to transfer fluid from IA-PRF-001 to IA-015-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603CM-IA-015-1-1B	1" PIPING	Transfer fluid from IA-014-1-1B to IA-011-1-1B	Unable to transfer fluid from IA-014-1-1B to IA-011-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0603**
EQUIPMENT TAG	**F-PRF-01**
EQUIPMENT NAME	**PRE FILTER A**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0603MS**
SUBUNIT	**MANUAL SHUTDOWN F-PRF-01**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0603MS-1-VLV-IA-011-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-011-1-1B piping	Unable to control the fluid in IA-011-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603MS-1-VLV-IA-014-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-014-1-1B piping	Unable to control the fluid in IA-014-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0603MS-1-VLV-IA-013-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-013-1-1B piping	Unable to control the fluid in IA-013-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**06**
SECTION/SYSTEM	**INSTRUMENT AIR SYSTEM**
ID Level 6	**0603**
EQUIPMENT TAG	**F-PRF-01**
EQUIPMENT NAME	**PRE FILTER A**
ID level 7	**0603MT**
SUBUNIT	**MAIN TASK F-PRF-01**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0603MT-F-PRF-01	PRE FILTER 1	Filtering Air from contaminant to Air Receiver	Unable to filtering Air from contaminant to Air Receiver	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	06
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM
ID Level 6	0604
EQUIPMENT TAG	F-PRF-02
EQUIPMENT NAME	PRE FILTER B
ID level 7	0604CM
SUBUNIT	CONTAINMENT F-PRF-02

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0604CM-IA-017-1-1B	1" PIPING	Transfer fluid from IA-DRF to IA-018-1-1B	Unable to transfer fluid from IA-DRF to IA-018-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604CM-IA-018-1-1B	1" PIPING	Transfer fluid from IA-017-1-1B to IA-019-1-1B	Unable to transfer fluid from IA-017-1-1B to IA-019-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604CM-IA-019-1-1B	1" PIPING	Transfer fluid from IA-018-1-1B to IA-022-1-1B	Unable to transfer fluid from IA-018-1-1B to IA-022-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604CM-IA-020-1-1B	1" PIPING	Transfer fluid from IA-019-1-1B to IA-PRF-002	Unable to transfer fluid from IA-019-1-1B to IA-PRF-002 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604CM-IA-021-1-1B	1" PIPING	Transfer fluid from IA-PRF-002 to IA-022-1-1B	Unable to transfer fluid from IA-PRF-002 to IA-022-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604CM-IA-022-1-1B	1" PIPING	Transfer fluid from IA-021-1-1B to IA-024-1-1B	Unable to transfer fluid from IA-021-1-1B to IA-024-1-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	06
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM
ID Level 6	0604
EQUIPMENT TAG	F-PRF-02
EQUIPMENT NAME	PRE FILTER B
ID level 7	0604MS
SUBUNIT	MANUAL SHUTDOWN F-PRF-02

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0604MS-1-VLV-IA-020-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-020-1-1B piping	Unable to control the fluid in IA-020-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604MS-1-VLV-IA-021-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-021-1-1B piping	Unable to control the fluid in IA-021-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0604MS-1-VLV-IA-022-1-1B	1" BALL VALVE MANUAL	To control the fluid in IA-022-1-1B piping	Unable to control the fluid in IA-022-1-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	06
SECTION/SYSTEM	INSTRUMENT AIR SYSTEM
ID Level 6	0604
EQUIPMENT TAG	F-PRF-02
EQUIPMENT NAME	PRE FILTER B
ID level 7	0604MT
SUBUNIT	MAIN TASK F-PRF-02

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0604MT-F-PRF-02	PRE FILTER 2	Filtering Air from contaminant to Air Receiver	Unable to filtering Air from contaminant to Air Receiver	4	Once Per >1- 5 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0701**
EQUIPMENT TAG	**V-120**
EQUIPMENT NAME	**KNOCK OUT DRUM**
ID level 7	**0701CM**
SUBUNIT	**CONTAINMENT V-120**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0701CM-DL-001-2-1B	2" PIPING	Transfer fluid from LIQUID TANK to V-120	Unable to transfer fluid from LIQUID TANK to V-120 accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0701CM-PL-012-2-1B	2" PIPING	Transfer fluid from V-120 to PL-014-2-1B	Unable to transfer fluid from V-120 to PL-014-2-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0701CM-DL-002-2-1B	2" PIPING	Transfer fluid from V-120 to EVAPORATION TANK	Unable to transfer fluid from V-120 to EVAPORATION TANK accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0701CM-FL-008-12-1B	12" PIPING	Transfer fluid from FLARE HEADER to V-120	Unable to transfer fluid from FLARE HEADER to V-120 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0701CM-FL-012-12-1B-01	12" PIPING	Transfer fluid from V-120 to FLARE STACK	Unable to transfer fluid from V-120 to FLARE STACK accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	07
SECTION/SYSTEM	FLARE SYSTEM
ID Level 6	0701
EQUIPMENT TAG	V-120
EQUIPMENT NAME	KNOCK OUT DRUM
ID level 7	0701MS
SUBUNIT	MANUAL SHUTDOWN V-120

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0701MS-2-VLV-PL-012-2-1B-02	2" BALL VALVE MANUAL	To control the fluid in PL-012-2-1B-02 piping	Unable to control the fluid in PL-012-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0701MS-2-VLV-DL-002-2-1B	2" BALL VALVE MANUAL	To control the fluid in DL-002-2-1B piping	Unable to control the fluid in DL-002-2-1B piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0701MS-2-VLV-PL-012-2-1B-01	2" BALL VALVE MANUAL	To control the fluid in PL-012-2-1B-01 piping	Unable to control the fluid in PL-012-2-1B-01 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	07
SECTION/SYSTEM	FLARE SYSTEM
ID Level 6	0701
EQUIPMENT TAG	V-120
EQUIPMENT NAME	KNOCK OUT DRUM
ID level 7	0701MT
SUBUNIT	MAIN TASK V-120

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0701MT-V-120	KNOCK OUT DRUM	Catching liquid waste	Unable to Catching liquid waste	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	H	PM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0702**
EQUIPMENT TAG	**P-160A**
EQUIPMENT NAME	**KNOCK OUT DRUM PUMP**
ID level 7	**0702CM**
SUBUNIT	**CONTAINMENT P-160A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0702CM-DL-105-2-1B	2" PIPING	Transfer fluid from KO DRUM to PL-014-2-1B	Unable to transfer fluid from KO DRUM to PL-014-2-1B accurately	1	Less then Once per 15 years	1	Injury Without Treatment	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0702CM-PL-013-2-1B	2" PIPING	Transfer fluid from P-160A to LIQUID TANK	Unable to transfer fluid from P-160A to LIQUID TANK accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0702CM-PL-014-2-1B	2" PIPING	Transfer fluid from DRAIN TANK to P-160A	Unable to transfer fluid from DRAIN TANK to P-160A accurately	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0702**
EQUIPMENT TAG	**P-160A**
EQUIPMENT NAME	**KNOCK OUT DRUM PUMP**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0702MS**
SUBUNIT	**MANUAL SHUTDOWN P-160A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0702MS-2-VLV-PL-013-2-1B-01	2" CHECK VALVE MANUAL	To control the fluid in PL-013-2-1B-01 piping	Unable to control the fluid in PL-013-2-1B-01 piping on demand	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0702MS-2-VLV-PL-013-2-1B-02	2" BALL VALVE MANUAL	To control the fluid in PL-013-2-1B-02 piping	Unable to control the fluid in PL-013-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0702MS-2-VLV-PL-014-2-1B-01	2" CHECK VALVE MANUAL	To control the fluid in PL-014-2-1B-01 piping	Unable to control the fluid in PL-014-2-1B-01 piping on demand	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0702MS-2-VLV-PL-014-2-1B-02	2" BALL VALVE MANUAL	To control the fluid in PL-014-2-1B-02 piping	Unable to control the fluid in PL-014-2-1B-02 piping on demand	3	Once per > 5-10 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0702**
EQUIPMENT TAG	**P-160A**
EQUIPMENT NAME	**KNOCK OUT DRUM PUMP**
ID level 7	**0702MT**
SUBUNIT	**MAIN TASK P-160A**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0702MT-P-160A	KNOCK OUT DRUM PUMP	Transfer Liquid Waste From Knockout Drum V-120	Unable to transfer Liquid Waste From Knockout Drum V-120	2	Once per >10-15 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0703**
EQUIPMENT TAG	**FL-330**
EQUIPMENT NAME	**GROUND FLARE**
ID level 7	**0703CM**
SUBUNIT	**CONTAINMENT FL-330**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0703CM-FG-009-1-1B	1" PIPING	Transfer fluid from FG-009-1.1/3-1B to FL-330	Unable to transfer fluid from FG-009-1.1/3-1B to FL-330 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0703CM-FG-009-1.1/3-1B	1.1/3" PIPING	Transfer fluid from FUEL GAS HEADER to FG-009-1-1B	Unable to transfer fluid from FUEL GAS HEADER to FG-009-1-1B accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM
0703CM-FL-012-12-1B-02	12" PIPING	Transfer fluid from KO DRUM (V-120B) to FL-330	Unable to transfer fluid from KO DRUM (V-120B) to FL-330 accurately	1	Less then Once per 15 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0703**
EQUIPMENT TAG	**FL-330**
EQUIPMENT NAME	**GROUND FLARE**

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID level 7	**0703CN**
SUBUNIT	**CONTROLLING FL-330**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0703CN-1-BPR-FG-009-1-1B-02	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0703CN-1-BPR-FG-009-1-1B-01	BACK PRESSURE REGULATOR	provide local indication	Unable to provide local indication	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0703**
EQUIPMENT TAG	**FL-330**
EQUIPMENT NAME	**GROUND FLARE**
ID level 7	**0703LI**
SUBUNIT	**LOCAL INDICATION FL-330**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0703LI-PI-321A	PRESSURE INDICATOR	To provide local indication of the Ground Flare FL-330 gas inlet pressure	Unable to provide local indication of the Ground Flare FL-330 gas inlet pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM
0703LI-PI-321B	PRESSURE INDICATOR	To provide local indication of the Ground Flare FL-330 gas inlet pressure	Unable to provide local indication of the Ground Flare FL-330 gas inlet pressure	1	Less then Once per 15 years	1	Injury Without Treatment	1	Have no nuisance effect at surround area	1	Gas leak (<0,5 MMSCFD)	L	CM

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

ID LEVEL 5	07
SECTION/SYSTEM	FLARE SYSTEM
ID Level 6	0703
EQUIPMENT TAG	FL-330
EQUIPMENT NAME	GROUND FLARE
ID level 7	0703MS
SUBUNIT	MANUAL SHUTDOWN FL-330

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0703MS-1-VLV-FG-009-1-1B-07	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-07 piping	Unable to control the fluid in FG-009-1-1B-07 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-01	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-01 piping	Unable to control the fluid in FG-009-1-1B-01 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-02	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-02 piping	Unable to control the fluid in FG-009-1-1B-02 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-03	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-03 piping	Unable to control the fluid in FG-009-1-1B-03 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-04	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-04 piping	Unable to control the fluid in FG-009-1-1B-04 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-05	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-05 piping	Unable to control the fluid in FG-009-1-1B-05 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0703MS-1-VLV-FG-009-1-1B-08	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-08 piping	Unable to control the fluid in FG-009-1-1B-08 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE
0703MS-1-VLV-FG-009-1-1B-06	1" BALL VALVE MANUAL	To control the fluid in FG-009-1-1B-06 piping	Unable to control the fluid in FG-009-1-1B-06 piping on demand	3	Once per > 5-10 years	3	Medical Treatment Without LTA	2	Notable but limited environmental impact	1	Gas leak (<0,5 MMSCFD)	M	PM IF APPROPRIATE

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0703**
EQUIPMENT TAG	**FL-330**
EQUIPMENT NAME	**GROUND FLARE**
ID level 7	**0703MT**
SUBUNIT	**MAIN TASK FL-330**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		
0703MT-FL-330	GROUND FLARE	Burning Gas Waste	Unable to Burning Gas Waste	4	Once Per >1- 5 years	2	Injury need Treatment with first aid Box	3	Environmental impact notable lasting environmental damage (Tier 1)	1	Gas leak (<0,5 MMSCFD)	H	PM

ID LEVEL 5	**07**
SECTION/SYSTEM	**FLARE SYSTEM**
ID Level 6	**0703**
EQUIPMENT TAG	**FL-330**
EQUIPMENT NAME	**GROUND FLARE**
ID level 7	**0703OF**
SUBUNIT	**OTHER FUNCTION FL-330**

COMPONENT TAG	COMPONENT NAME	FUNCTION	FAILURE SCENARIO	PROBABILITY		CONSEQUENCE						CRITICAL	MAINTENANCE STRATEGY
				PB	DEFINITION	HS	DEFINITION	E	DEFINITION	P	DEFINITION		

EQUIPMENT CRITICALITY ANALYSIS WORKSHEET

0703OF-1.1/3x1-RDC-FG-009-1.1/3-1B	1.1/3"x1" REDUCER	Transfer fluid in IA-028-1-1B	Unable to transfer fluid in IA-028-1-1B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	5	Gas Leak (>10 MMSCFD)	M	PM IF APPROPRIATE
0703OF-12x6-RDC-FL-012-12-1B	12"x6" REDUCER	Transfer fluid in IA-028-1-1B	Unable to transfer fluid in IA-028-1-1B	1	Less then Once per 15 years	3	Medical Treatment Without LTA	1	Have no nuisance effect at surround area	5	Gas Leak (>10 MMSCFD)	M	PM IF APPROPRIATE

BIOGRAFI PENULIS

Penulis lahir di Sragen pada tanggal 25 Januari 1996, dengan nama Dimas Fajar Prasetyo dari Ayah bernama Suratno dan Ibu bernama Suwarni. Penulis merupakan anak pertama dari dua bersaudara. Penulis telah menyelesaikan studi formal di SD N Plumbungan 2 (2003-2009), SMP N 5 Sragen (2009-2012), SMA N Sragen BBS (2012-2015) hingga menempuh pendidikan di Departemen Teknik Sistem Perkapalan Fakultas Teknologi Kelautan Institut Teknologi Sepuluh Nopember dan memfokuskan diri di bidang *Marine Operation and Maintenance.* Selama studi di kampus diisi dengan mencoba hal-hal baru tanpa mengurangi fokus akademik. Penulis bergabung dengan UKM TDC (Technopreneurship Development Center), unit kegiatan mahasiswa yang bergerak di bidang bisnis. Selain itu, penulis juga aktif di BEM FTK (Badan Eksekutif Mahasiswa Fakultas Teknologi Kelautan) dan berbagai kegiatan kepanitiaan. Sedangkan pengalaman kerja praktek didapatkan di dua perusahaan dengan masing-masing fokus yang berbeda, yaitu PT Dumas Tanjung Perak di bagian *Quality Assurance and Quality Control*, dan Lapindo Brantas, Inc di bidang *Maintenance*. Penulis juga berpatisipasi dalam pengerjaan *project* dengan beberapa dosen seperti *Risk-Based Inspection* (RBI), *Remaining Life Assessment* (RLA), Studi *Re-engineering dan Remaining Life*, *Hazard and Operability Study* (HAZOP), dan *Pipeline Risk Assessment*. Pada kehidupan pasca kampus penulis berharap agar mampu merealisasikan dan menekuni ilmu di bidang *risk-based maintenance*.

Dimas Fajar Prasetyo
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“be highly educated, professionally successful, and financially illiterate”