

۱- دامنه کاربرد:

تجهیزات، تأسیسات، ساختمان‌های اداری و صنعتی تحت پوشش و محل اجرای پروژه‌های شرکت برق صنعت ایستا.

۲- هدف:

- رعایت و اشاعه مقررات، آیین‌نامه‌ها و استانداردهای ایمنی و بهداشت کار به منظور ایجاد محیط امن سالم و دور از خطر برای کارکنان، گروه‌های ذینفع، پیمانکاران و کلیه افراد و دستگاه‌ها و ماشین‌آلاتی که به هر عنوان به دامنه کاربرد این دستورالعمل وارد، خارج شده و یا در آن مستقر می‌شوند.
- توسعه یک استراتژی برای مدیریت پیشگیرانه HSE

۳- تعاریف:

- ۳-۱- مقررات، آیین‌نامه‌ها و استانداردهای ایمنی: عبارت از مجموعه‌های مدونی است که توسط نهادهای صلاحیت‌دار بین‌المللی، ملی و یا محلی تدوین و ابلاغ شده و رعایت آنها در کارگاه‌های صنعتی، خدماتی و غیره الزامی می‌باشد.
- ۳-۲- گروه‌های ذینفع: عبارت است از کلیه افرادی که به هر عنوان با دامنه شمول این دستورالعمل ارتباط دارند اعم از پرسنل اجرایی سایت، ارباب رجوع، بازدیدکنندگان، میهمانان، مأمورین و...
- ۳-۳- شرکت: منظور از شرکت در این دستورالعمل شرکت برق صنعت ایستا می‌باشد.

۴- مفاد دستورالعمل:

این دستورالعمل به منظور رعایت آیین‌نامه‌ها، مقررات و استانداردهای حفاظت فنی و بهداشت شغلی در جهت ایجاد محیط امن، سالم و دور از خطر برای کارکنان و جلوگیری از وارد شدن خسارات احتمالی به تأسیسات و تجهیزات و جلوگیری از وقوع صدمات احتمالی جانی و مالی به افرادی که تحت هر عنوان در محدوده کاری به صورت ارادی و غیر ارادی وارد و یا خارج می‌شوند و همچنین تأمین امنیت جانی برای کارکنان و افراد ذینفع، قبل از شروع فعالیت به کارکنان مربوطه ابلاغ می‌شود تا در ضمن ارائه خدمات، مفاد آن را به شرح ذیل دقیقاً رعایت نمایند.

۴-۱- سرپرست کارگاه موظف است مفاد این دستورالعمل را به دقت مطالعه نموده و به کارکنان و مسئولین تحت سرپرستی خود جهت رعایت دقیق مفاد آن را ابلاغ نماید.

۴-۲- سرپرست کارگاه لازم است برای اجرای مفاد قرارداد از افرادی که دارای تخصص‌های فنی و ایمنی لازم برای مسئولیت‌های محوله باشند استفاده نموده و از بکارگیری نیروی انسانی غیر متخصص برای فعالیتهای خطرآفرین و حادثه‌ساز خودداری نماید.

۴-۳- سرپرست کارگاه موظف است وسایل حفاظت فردی و گروهی متناسب با کار و خطرات بالقوه و احتمالی از جمله کلاه ایمنی، کفش ایمنی و لباس کار را تهیه و در اختیار کارکنان خود قرار دهد و بر حسن استفاده توسط آنان تأکید و نظارت نماید.

۴-۴- در صورت نیاز به اقداماتی از قبیل حفاری، کانال‌کشی، خاک‌برداری، خاک‌ریزی و... لازم است سرپرست کارگاه قبلاً از مراجع ذیصلاح مجوز و تأییدیه لازم را اخذ نماید.

۴-۵- در صورتیکه خطراتی از قبیل سقوط اجسام و اشیاء از ارتفاع و یا سقوط افراد از ارتفاع و یا به داخل گودال، کانال، چاه، چاله و نظایر آن، خطر تماس با قسمت‌های برقدار شبکه، خطر ضربات مکانیکی، خطر تماس با مواد شیمیایی و اجسام داغ، خطر برخورد با موانع و سایر خطرات احتمالی در محل کار وجود داشته باشد، لازم است سرپرست کارگاه ضمن محصور نمودن محل کار با استفاده از وسایل محصور کننده، نسبت به نصب علائم اخباری، اخطاری، هشداردهنده و بازدارنده استاندارد، به روش مطمئن اقدام نماید.

تبصره ۱: برای انجام هر گونه تعمیرات و عملیات در محدوده پست‌های فوق توزیع و انتقال نیروی برق، سرپرست کارگاه و یا مسئول پروژه موظف است طبق استاندارد مقررات ایمنی شبکه‌های انتقال نیرو (ابلاغی از وزارت نیرو) که دارای برنامه زمانبندی معین بوده و مسئولین امر را از برنامه خود مطلع و قبل از شروع کار، اجازه کار معتبر اخذ نماید.

تبصره ۲: برای کار در محدوده پست‌های فوق توزیع و انتقال بر اساس موارد مندرج در استاندارد مقررات ایمنی شبکه‌های انتقال نیرو (ابلاغی از وزارت نیرو)، اپراتور پست به طور کامل محل کار را محصور می‌نماید و قبل از اتمام عملیات کامل محصورسازی، هیچ فردی مجاز به انجام کار نمی‌باشد.

۴-۵-۱- لازم است سرپرست کارگاه برای محصور نمودن محل کار در شب و یا مواقعی که قدرت دید کم می‌باشد تدابیر ایمنی لازم از جمله استفاده از شیرنگ‌ها و چراغ‌های چشمک‌زن مناسب را پیش‌بینی و اجرا نموده و در صورت نیاز از تجهیزات هشداردهنده صوتی نیز استفاده نمایند.

۴-۵-۲- وسایل محصورکننده باید به گونه‌ای در محل نصب گردند که با سهولت و با چشم معمولی قابل رؤیت بوده و توسط عوامل جوی از قبیل باد و باران و نظایر آن برچیده نشود، ضمناً خود نیز موجب حادثه نگردند.

۴-۵-۳- سرپرست کارگاه موظف است وسایل و لوازم محصور نمودن کامل محیط کار را تا پایان کار همچنان پابرجا نگهداشته و در صورت نیاز به تغییرات احتمالی در محل کار و انتقال به محل کار جدید نسبت به محصورسازی مطمئن محل کار جدید نیز اقدام نماید.

۴-۶- سرپرست کارگاه موظف است در صورت احتمال وقوع حوادثی نظیر انفجار، آتش‌سوزی و ریزش آوار ضمن اطلاع به دستگاه نظارت، تدابیر ایمنی لازم را پیش‌بینی نموده و آمادگی کامل جهت مقابله با این خطرات را داشته باشد و افراد را قبل از وقوع حادثه از محل دور نماید.

۴-۷- سرپرست کارگاه باید از تجهیزات و ابزاری که باعث ایجاد آلودگی هوا، کارگاه، آلودگی صوتی و نظایر آن که موجب آزار و اذیت کارکنان شرکت و عابریین و ساکنین محل می‌شوند اجتناب نماید. در صورت اجبار با هماهنگی واحد نظارت باید تدابیر ایمنی و ملاحظات مربوطه را قبلاً پیش‌بینی نماید.

۴-۸- سرپرست کارگاه موظف است بر اجرای کار و همچنین ورود و خروج کارکنان تحت سرپرستی خود و تجهیزات و ماشین آلات و نظایر آن نظارت مستمر داشته باشد.

۴-۹- سرپرست کارگاه مجاز به استفاده از ابزار، تجهیزات و ماشین آلات غیر استاندارد، فرسوده و معیوب در محل کار شرکت نمی‌باشد.

۴-۱۰- برای عبور و مرور وسایل نقلیه از مجاورت تجهیزات و تأسیسات خطرآفرین، بایستی قبلاً هماهنگی لازم با مسئولین ذیربط بعمل آمده و حرکت در مسیرهای تعیین شده صورت گیرد.

۴-۱۱- در صورت نیاز به بازدید کارکنان شرکت یا گروههای ذینفع از محل کار، تهیه وسایل ایمنی مورد نیاز به منظور تأمین امنیت جانی بازدیدکنندگان بر عهده سرپرست کارگاه بوده و در صورتیکه وی نتواند امنیت جانی بازدیدکنندگان را تأمین نماید، لازم است ضمن ممانعت از ورود آنان به محل کار مراتب را کتباً اعلام و رهنمودهای لازم را از شرکت اخذ نماید.

۴-۱۲- سرپرست کارگاه موظف است پس از پایان کار، با هماهنگی مسئولین مربوطه کارکنان خود را از محل کار خارج و محیط را عادی سازی نموده و ضایعات، نخاله‌ها، روغن‌های سوخته، مواد شیمیایی و سایر مواد شیمیایی و سایر مواد مازاد خود را به روش صحیح و ایمن به طور کامل جمع‌آوری و به محل مناسب و مطمئنی منتقل نماید و در صورت وجود هر گونه خطر احتمالی مراتب را به مدیر پروژه گزارش نماید.

۴-۱۳- سرپرست کارگاه می‌بایست رویه‌هایی برای شناسائی خطرات، ارزیابی ریسکها و پیش‌بینی اقدامات کنترلی و پیشگیرانه داشته باشد.

۴-۱۴- سرپرست کارگاه می‌بایست در صورت عدم رعایت مقررات HSE توسط کارکنان و یا پیمانکاران، برخوردهای انضباطی ذیل را اعلام نماید:

۱. اخطار شفاهی به کارکنان و یا پیمانکاران و اخذ تعهد از فرد خاطی برای رعایت مقررات HSE.

۲. اخطار کتبی به کارکنان و یا پیمانکاران و اخراج فرد خاطی از شرکت و سایت.

۳. اعمال جریمه نقدی کارکنان و یا پیمانکاران و کسر از مطالبات آنها با نظر امور HSE و تصویب مدیر پروژه.

۴. کارگران و کارکنان خاطی باید به تناسب تنبیه و مراتب به اطلاع عموم برسد.

۴-۱۵- سرپرست کارگاه موظف است قبل از استخدام نیروهای جدید، با انجام معاینات و مصاحبه‌های اختصاصی از تناسب آنها با وظایف محوله در برآوردن الزامات ایمنی سایت اطمینان حاصل کند.

۴-۱۶- سرپرست کارگاه موظف است در صورت مشاهده موارد خاصی (نظیر تکرار مداوم حوادث، بیماریهای واگیردار، موارد مشکوک و...) با انجام اقدامات مناسب نسبت به مقابله با آنها اقدام نماید.

تبصره ۵: شرح کامل نحوه انجام معاینات در بند ۵-۳-۲-۵ (مدیریت بهداشت حرفه‌ای) آمده است.

۴-۱۷- سرپرست کارگاه موظف است متناسب با تعداد کارگران و نوع خطرات کارگاه جعبه کمکهای اولیه مجهز به تجهیزات و داروهای ضروری لازم (حداقل شامل چسب، پنبه، گاز استریل بسته‌بندی شده، ماده ضد عفونی کننده و...) تهیه و در نقاطی که دسترسی فوری به آنها برای کارکنان میسر باشد نصب نماید.

۴-۱۸- سرپرست کارگاه موظف است محل سکونت کارکنان (کمپ اسکان) را مطابق با کلیه ضوابط و شرایط بهداشتی تأمین کند.

تبصره ۱: ظرفیت کمپ‌های اسکان می‌بایست متناسب با تعداد نفرات باشد.

تبصره ۲: کمپ‌های اسکان می‌بایست دارای سیستم تهویه مناسب و روشنایی کافی بوده و امکان تأمین درجه حرارت مطلوب در ایام مختلف سال در آن مهیا باشد.

تبصره ۳: سرپرست کارگاه می‌بایست اقدامات لازم در مورد جلوگیری از ورود حشرات و جانداران موذی به داخل اماکن سکونت کارکنان شامل نظافت‌های دوره‌ای و منظم، سم‌پاشی و ... را بعمل آورد.

۴-۱۹- سرپرست کارگاه موظف است به ازاء هر ۱۵ نفر کارگر یک دوش آب گرم و سرد و در مواردی که شاغلین آنها با سموم مواد شیمیایی، مواد عفونت‌زا و یا مواد غذایی سروکار دارند برای ۱ الی ۱۰ نفر کارگر یک دوش آب گرم و سرد و به ازاء هر ۱۰ نفر اضافی یک دوش آب گرم و سرد دیگر در نظر بگیرد.

۴-۲۰- در کارگاه‌هایی که کارگران با مواد شیمیایی، مواد سمی و عفونت‌زا و امثالهم سروکار دارند، پیمانکار می‌بایست به تعداد کافی ماشینهای لباسشویی جهت شستشوی البسه کارگران فراهم کند.

۴-۲۱- سرپرست کارگاه مکلف است برای کارکنان خود با توجه به تعداد شاغلین و به شرح ذیل توالی تأمین کند.

- برای ۹-۱ نفر شاغل ← حداقل ۱ توالی
- برای ۲۴-۱۰ نفر شاغل ← حداقل ۲ توالی
- برای ۴۹-۲۵ نفر شاغل ← حداقل ۳ توالی
- برای ۷۴-۵۰ نفر شاغل ← حداقل ۴ توالی
- برای ۱۰۰-۷۵ نفر شاغل ← حداقل ۵ توالی

و در مواردی که تعداد شاغلین بیش از ۱۰۰ نفر است، به ازاء هر ۳۰ نفر اضافی حداقل ۱ توالت در نظر گرفته شود.

۴-۲۲- سرپرست کارگاه مکلف است با توجه به تعداد شاغلین به شرح ذیل برای کارکنان خود دستشویی در نظر بگیرد:

- برای ۱-۱۵ نفر شاغل ← حداقل ۱ دستشویی
- برای ۱۶-۳۰ نفر شاغل ← حداقل ۲ دستشویی
- برای ۳۱-۵۰ نفر شاغل ← حداقل ۳ دستشویی
- برای ۵۱-۷۵ نفر شاغل ← حداقل ۴ دستشویی
- برای ۷۶-۱۰۰ نفر شاغل ← حداقل ۵ دستشویی

۴-۲۳- محیط کار باید تمیز و مرتب بوده و پاکیزه و منظم نگهداری شود. به این منظور باید محلی برای ذخیره و نگهداری تجهیزات در نظر گرفته شود. قانون ضبط و ربط در همه فرآیندها، اعمال، فعالیتها و مشاغل باید رعایت شوند. ضبط و ربط برای این فرآیندها یک بخش جانبی نبوده بلکه بخش تکمیل کننده آنهاست. به عنوان بخشی از کار، مواد زائد و زباله‌ها باید از منطقه فعالیت، به صورت مرتب و مستمر جمع‌آوری شوند.

۴-۲۴- سرپرست کارگاه می‌بایست حفاظت فردی مناسب و وسایل ایمنی مورد نیاز افراد را مطابق با قوانین فراهم نماید.

۴-۲۵- تهیه تجهیزات حفاظت فردی زیر برای کلیه نفرات و پرسنل سایت حسب مورد و فعالیت اجرائی اجباری و الزامی است:

۱. کلاه ایمنی با آرم خاص شرکت و دارای استحکام مناسب.
۲. لباس متحدالشکل آرم‌دار شرکت.
۳. کفش ایمنی مناسب با نوع کار.
۴. عینک ایمنی.
۵. گوشی صداگیر.
۶. ماسک و فیلتر ضد گاز.
۷. دستکش مناسب با نوع کار.

۸. کمربند ایمنی برای کار در ارتفاع.

۹. چکمه مناسب با نوع کار.

۱۰. وسایل حفاظت فردی برای کارهای خاص.

۱۱. جلیقه نجات جهت کارهای دریایی.

۴-۲۶- سرپرست کارگاه جهت سپردن خودروی سواری شرکتی به سرپرستان و کارشناسان اجرائی می‌بایست اصل گواهینامه معتبر آنها را رؤیت و کپی آن را بایگانی نموده، از هر گونه استفاده پرسنل از خودروی شرکتی بدون داشتن گواهینامه رانندگی معتبر جداً جلوگیری بعمل آورد.

۴-۲۷- سرپرست کارگاه موظف است پیش از انجام هر نوع کاری توسط کارکنان و یا پیمانکاران سایت اعم از کار گرم، سرد، حفاری و..... نسبت به دریافت اجازه کار (پرمیت) متناسب با نوع کار از واحد مربوطه کارفرما اقدام نماید.

۴-۲۸- سرپرست کارگاه موظف است در موارد سندبلاست و رنگ‌آمیزی با اسپری از رعایت موارد ذیل در سایت اجرائی اطمینان حاصل نماید:

۱. در سندبلاست نباید از سیلیس استفاده شود.

۲. منطقه عملیات سندبلاست به منظور کاهش اثرات نامطلوب فعالیت بر سایر کارکنان و محیط زیست باید با حصار مناسب محصور شده و تابلو خطر "وارد نشوید عملیات سندبلاست در دست انجام است" در محل‌های مناسب نصب شود.

۳. استفاده از ماسک‌های تنفسی از نوع کلاه‌دار (SCBA) مجهز به هوای فیلتر شده که منبع تأمین هوا در خارج از منطقه عملیات سندبلاست قرارداد با رعایت الزامات ذکر شده در MSDS در این خصوص ضروری است.

۴. قبل از انجام هر گونه رنگ‌آمیزی با اسپری یا سندبلاست خارج از کارگاه از پیش طراحی شده، پیمانکار باید گزارش تحلیل ایمنی شغلی (JOB SAFETY ANALYSIS) تهیه نموده و به تأیید HSE کارفرما برساند.

۵. رنگها و پلی یورتانهای شامل ایزوسیانات نباید مورد استفاده قرار گیرد مگر آنکه قبلاً مجوز کتبی از امور HSE کارفرما دریافت شده باشد.

۲۹-۴- سرپرست کارگاه ملزم به اطلاع رسانی سریع در مورد تمامی حوادث ایمنی، بهداشتی و زیست محیطی حاد از قبیل "حوادث منجر به فوت، خسارات مالی قابل توجه و یا آلودگیهای زیست محیطی وسیع" به نماینده HSE کارفرما و مدیر پروژه می باشد.

۳۰-۴- سرپرست کارگاه موظف است پس از پایان پروژه نسبت به پاکسازی محیط زیست، از بین بردن موانع ایجاد شده، پر کردن چاله ها، گودال ها و کانالهای حفر شده و... اقدام نموده و شرایط محل کار را به حالت عادی بازگرداند.

۵- وظایف و مسئولیت ها:

۱-۵- مسئولیت ابلاغ این دستورالعمل بر عهده مسئول پروژه/مدیر پروژه می باشد.

۲-۵- مسئولیت اجرای این دستورالعمل بر عهده سرپرست کارگاه می باشد.

۶- منابع و مراجع:

۱-۶- استاندارد OHSAS18001:2007

۲-۶- مقررات ایمنی شبکه های انتقال نیرو

۳-۶- مقررات و آئین نامه های حفاظتی وزارت کار و امور اجتماعی

۴-۶- آیین نامه ها و دستورالعمل های ابلاغی از مرکز بهداشت استان و سازمان آتش نشانی و خدمات ایمنی

۵-۶- بخش نامه های ابلاغی از طرف وزارت نیرو و سایر نهادهای ذیربط

۶-۶- دستورالعمل HSE پیمانکاران وزارت نفت



**HEALTH, SAFETY &
ENVIRONMENTAL
PROTECTION MANUAL**



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1.0 COMPANY HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION POLICY

HEALTH, SAFETY AND ENVIRONMENTAL POLICY

ISTA CTC (Construction & Technical Co.) has adopted and is committed to, a policy on Health, Safety and protection of the Environment in the execution of our business activities and, will therefore strive to:

- Prevent injuries to people and property.
- Comply with all Statutory Health, safety and Environment protection regulations in the countries where we conduct our business.
- Incorporate in to our designs Health, Safety and Environment protection features
- Identify, assess and mitigate as far as is practicable the risk to Health, Safety and the Environment associated with our activities.
- Provide information, protection and training or our employees, contractors and members of the public who are associated with or affected by our business activities on Health, Safety and Environment protection related matters.
- Provide a forum to our employees to continuously improve Health, Safety and Environment protection awareness to achieve the company's objectives.
- Implement and maintain a system to monitor and administer the Health, Safety and Environment protection policy of the company.

2.0 RESPONSIBILITY AND ACCOUNTABILITY

2.1 Introduction

ISTA CTC'S overall responsibility and commitment to Health, Safety and the Environment (HSE) is entrusted to its employess. It is therefore the duty of every employee to ensure that all of the Company's activities are undertaken in accordance with the Company's HSE policy and applicable guidelines and, statutory and regulations applicable in the countries where ISTA CTC conducts its business. Specific responsibilities of individuals within the Company are as defined below.

2.2 Responsibilities

2.2.1 President

He shall be responsible for establishing the Company's HSE policy and, for the overall implementation and performance of HSE activities throughout the Company.

- He shall be responsible for establishing the Company's HSE policy and, for the overall implementation and performance of HSE activities throughout the Company.
- He shall approve budgets for HSE related activities, and ensuring that all ISTA CTC'S requirements relating to HSE are implemented enhance to.
- He shall be responsible for reporting to the board of Directors on matters relating to HSE.
- He shall provide direction to the Company's HSE committee on the Company's long terms HSE plan.

2.2.2 Vice President

He shall ensure the continuous development of the Company's HSE Management System.

- He shall ensure that regular monitoring; reporting and applicable corrective actions are taken on all HSE related matters.
- He shall ensure line adherence to the Company's HSE policy and guidelines which shall include but not be limited to implementation of statutory HSE regulations, risk management, Safety awareness and training, implementation of safety programs, etc.
- He shall lead Management Review of the HSE performance, practices and systems of the Company. He shall also participate in the HSE audit.
- He shall ensure that annual HSE objectives and targets for the Company are defined and achieved.
- He shall advise and recommend any changes to the Company's HSE policy, if required, to the President.

2.2.3 HSE Manager

He shall be responsible for the day to day HSE management at the ISTA CTC'S Worksites. He will be guided by the Company's policy, rules, regulations, standard practices and, procedures, his areas of responsibilities shall be as follows:-

Ensure that the Company's HSE rules and regulations are adhered to in all activities performed by all personnel at the Worksites.

- Ensure that scheduled meetings. (i.e. monthly safety and weekly/daily toolbox meeting's) are conducted.
- Ensure that immediate corrective actions are taken to rectify any non-compliance of HSE matters.
- Conduct and lead the accident investigation them.
- Ensure that the safety Committee is active. He shall act as Committee Advisor.
- Ensure that all planned Safety Programs are implemented.
- Ensure and maintain a comprehensive record on safety related incidents i.e. statistics, accident/incident report, safety training records, near miss reports, hazard hunt report.
- Ensure that where required Activity Safety Analysis (ASA) sheets are prepared, maintained and issued.
- Conduct regular audits at the worksite.
- Identify the HSE training requirements for all employees to maintain and enhance HSE awareness in order to achieve the company's HSE objectives.
- Ensure that regular safety drills are been conducted to ensure their readiness to react to an emergency.
- Assist the management team in with HSE audits and reviews.
- Ensure that all HSE related information is disseminated to applicable employees and monitor personnel awareness of HSE issues.
- Reviews and approve the execution plan of special non-routine work carried out by the worksite.
- Ensure scheduled mandatory inspection certification is done on the necessary equipment.
- Ensure regular in-house inspection is carried out on all other equipment in the worksite i.e. Electrical equipment, cables, support structures, machinery guard, PPE, equipment wear and tear.

- Produce a quarterly HSE plan, which includes safety meeting, audit, inspection and safety program (safety talk, safe video, safety demonstration, etc.) safety drill and safety training. Ensure that the plans are fully implemented.
- Prepare project HSE plans as required.
- Coordinate ISTA CTC's HSE activities with Group HSE management requirements.
- Liaise with Local Authorities on matters relating to HSE.

2.2.4 Safety Officer

He shall be responsible for all day – to- day control and implementation of HSE related matters at the worksite. This includes enforcement, training, educating, motivating, informing and maintaining records/statistics on all HSE related matters. He shall report directly to the Construction Manager at Worksites. His areas of responsibility are.

- Participate in daily toolbox meetings and provide safety input I.e. Company's Rules and Regulations and relevant precautions, on the work scheduled for the day.
- Initiate ASA sheets from the work plan for all activities where potential HSE risks are perceived, and monitor/enforce adherence.
- Liaise with sub Suppliers safety Representatives and Worksite Construction Supervisors on a daily basis on HSE related activities.
- Conduct a Safety Awareness briefing for all visitors and new employees prior to being given access to the Worksite. Ensure that visitors use applicable PPE. All new employees shall be required to read ISTA CTC's HSE manual and to sign a declaration confirming that they will comply with Company HSE requirements.
- Ensuring that all visitors are suitably escorted at Worksites.
- Implement immediate corrective actions on any unsafe act or unsafe condition.
- Ensure scheduled safety meetings, inspection; audits and safety program are implemented.
- Participate in accident/incident investigation.
- Ensure up to date safety statistic boards are present at the Worksites when required by a particular project.
- Conduct frequent audits and inspections on Sub Suppliers facilities, Worksite security, machinery, electrical equipment, housekeeping, lifting equipment,

Personnel Protection Equipment (PPE), guards, handling and segregation of materials, work methods/procedures, safety equipment, fire fighting equipment, etc.

- Encourage participation of all Company's employees (including Contractors) in improving safety at the workplace. This will be done initiating programs such as safety suggestion box, hazard hunt, near miss report, safety notice board, recognition and reward.
- Educate employees regularly on the Company's HSE guidelines, rules, regulations and practices.
- Prepare records on all HSE matters such as statistics, accident/incident reports, audit and inspection report, training records, hazard reports, Near Miss Reports and reports (accident related).
- Ensure that all new employees (and contractors) read and understand ISTA CTC's HSE manual prior to commencing work.
- Ensure that adequate supplies of consumable PPE are maintained.
- Ensure that applicable Material safety Data Sheets are obtained when using hazardous materials i.e. chemical.

2.2.5 Supervisors

A Supervisory position as defined by the organization chart. However, any employee can be classified as supervisor when he is responsible for a particular activity at Worksite. Supervisors will be the last management person responsible for the implementation of the Company's HSE policy by guiding / directing / supervising their subordinate staff. It is thus necessary for Supervisors to understand their responsibilities so as to make ensure a safe working environment. The HSE responsibilities of Supervisors are as follows:

- Ensure regular work briefing / tool meetings are conducted.
- Implement and enforce Company's HSE rules, procedures and guidelines in the performance of all the Company's activities.
- Educate and train subordinate staff on the Company's HSE policy and guidelines.
- Take immediately corrective action on unsafe act and conditions.
- Ensures that appropriate PPE are provided and utilized by employees.

- Prepare a work plan for any special non-routine task and liaise as applicable with the safety Officer to ensure that-Where necessary, an ASA sheet is generated.
- Report and assist in any accident/incident investigation to find the root cause.
- Discipline as required personnel who ignore Company HSE policy.
- Ensuring that any Contractor whom undertakes work for the Company and, is under her/his supervision adhere to the Company's HSE policy.

2.2.6 Other Managers

Each manager has the duty and responsibility in general for ensuring the company HSE standard and objectives are maintained and achieved not only by their respective department but also on a Company wide basis. As such each manager must demonstrate personal commitment to the HSE policy and programs and respond promptly to:

- Non-compliance of Company's HSE policy, rules and regulation.
- Unsafe acts or conditions.
- Lack of or low HSE standards and practices.
- Poor safety performance/ achievement.
- Safety Training needs for employees.
- Lack of awareness and participation on HSE matters of employees.
- Negative indication on other factors such as lack of discipline, low morale, lack of skill etc. which might affect safety.
- Accident/incident reports.

2.2.7 Other Employees

All employees are responsible for the following:

- Understanding and adhering to the Company's HSE policy.
- Stopping any unsafe acts or practices and reports on all unsafe conditions to his/ her line supervisor/manager.
- Reporting any injury, accident/incident or near miss to his/her supervisor /manager.
- Wearing the appropriate personal protective equipment as applicable to the work being undertaken.

- Proper behavior and conduct at the workplace that shall not at all be detrimental to their own safety and safety of others.
- Ensure that any Contractor who undertakes work for company and is under her/his supervision abide by the Company's HSE rules and regulations.

3.0 MANAGEMENT AND ADMINISTRATION

3.1 General

The HSE Management System and, administration structure will very depending on the type of and location of the project being undertaken. Where applicable a specific Project HSE Plan shall be developed.

3.2 Meeting Inspections Audits & Reports

As general guideline, the below listing represents a schedule for Meetings, Inspections & Audits. These guideline are intended as an initial starting point only and, the extent of scheduled meeting and issuance of reports may report may need to be reviewed periodically and, on a project by project basis.

3.2.1 Meetings

It is a Company requirement that in order to monitor the effectiveness of the Company's HSE policy that regular meetings are carried out at all levels within the Company and that such meeting are documented for future reference.

Safety Toolbox Meetings-Daily before each shift commences work at the Yard/Jobsite Management Meeting-Every 3 months

Management Meeting (ISTA CTC)-Annually

Specific Project Related Meeting with Clients-As required by the Contract

3.2.2 Inspection of Worksites

Inspection by the Yard/Worksite Safety Officer shall be carried out on a daily basis.

3.2.3 Audits

Audits of the Worksite for HSE implementation shall be carried out quarterly. External audits may be carried out by Clients or 3rd parties as required by the Project.

In some countries, the Department of Safety and Health or similar, may opt routinely audit all worksite facilities prior to issuance of certification/ licences for fabrication/ construction.

3.2.4 Reporting

Reporting on all matters relating to HSE is required both within the Company and to ISTA CTC management. In general such reporting shall take place at 3 monthly intervals or as required by the President.

Reporting to Clients on worksite safety statistics and, other HSE related matters is generally as defined by the specific project requirements.

At all times the Worksite safety statistics should be displayed at the main entrance to the Worksite.

3.3 Change of Contractors Supervisor

In general, the Contractor at any given time shall not change or transfer supervisors and foreman who initiated the works within a designated area so as to minimize disruption to work due to their replacements not being familiar with the work area, equipment, tools utilization and work methodology.

However, in exceptional and unavoidable circumstances a Contractor will be allowed to change/transfer and replace the predecessor provided that a prior written request is made to the ISTA CTC Yard/Site Manager and, approval is obtained.

3.4 HSE Manual and Procedure Distribution.

Controlled copies of this Manual and, referenced attachments are distributed to all ISTA CTC Management, at all ISTA CTC office locations. In addition, controlled copies are issued to all Safety Officers and Worksites.

Uncontrolled copies are issued to all main Contractor at Worksites and shall be issued to resident clients at Worksites.

The Contractor shall nominate a senior management representative who has Responsibility for implementation of ISTA CTC's procedures.



4.0 CONDITION OF SITE ACCESS

4.1 Personnel

4.1.1 Staff

All employees shall be subject to an HSE Induction program on joining the Company. It is the responsibility of the relevant Department Manager to ensure that employees have adequate Safety training for the range of activities that the employees will be expected to undertake.

4.1.2 Contractors/Sub Contractors

The contractor/ Sub Contractor Supervisor shall provide the following information to the ISTA CTC Project Safety officer prior to commencement of work on a job site.

Name of contractor and Contract NO.

Full name of employee

Position employee will hold on the job site

Date employee is scheduled to start work on the job site.

Medical certificate and, passport size photograph

When applicable, certificate of competency to operate plant/equipment or to act as Rigger, Scaffolder, signalman, etc.

HSE Induction course attendance certificate.

All Contractors/ Sub contractors shall be subjected to a ISTA CTC approved HSE Induction Briefing prior to being allowed access to the Job site. The HSE induction briefing may be structured and, varied to suit the type of employee, work type and environment specific for the project.

4.2 Access Passes

4.2.1 General

All personnel entering a job site must wear a visible identification pass.

Personnel working on board a vessel, rig, etc. shall further wear a Person On Board (POB) badge. Such Personnel shall be issued with a separate colored identification card, which shall be replaced at the time of access to the vessel, rig etc. with a POB Badge. At each time of entry or exit the badge or Identification pass shall be interchanged as applicable. Badge /Identification passes shall be displayed on a board at the point of entry/ exit to the vessel.

4.2.2. Restricted Access Passes

On particular project access to certain parts of the plant or Vessel may be restricted. In such cases an Access Pass will be issued to those personnel who are permitted to enter the Restricted Area.

5.0 GENERAL SAFETY GUIDELINES

5.1 Identification and Control

The identification and control of hazards is generally down to individual common sense. Section 6.0 of this document identifies guidelines and provides check lists for safe conduct and hazard prevention for routine day to day activities. Formal methods of hazard identification whereby a particular activity which could involve a significant risk are as detailed below.

5.2 Activity Safety Analysis

An Activity Safety Analysis (ASA) is a process whereby hazards associated with each step of an activity are identified a control measure applied to mitigate risks to personnel. Property or the environment.

An ASA may be carried out on activities that are perceived to introduce more than a normal safety hazard. An example of this is a specific heavy life operation utilizing 2 cranes. A typical ASA sheet is included in Appendix 3 of this manual for completion when an ASA is carried out. The objective of the ASA is to minimize the risk of a hazard by discussion between the various parties.

The HSE Manger is responsible for compiling these documents and maintaining a register of all ASA's that have been generated.

ASA 's are a useful way of increasing safety awareness and educating personnel involved since it often involves a "Round Table" discussion with the various Supervisors, Foreman, safety Officers and engineers. An ASA is carried out utilizing standard checklist and subsequently by discussion that broadens the particular topic with regard to the particular activity under consideration.

An ASA can be attached as reference document to permits. Standard ASA's are often used as a reference when a particular activity is performed on the next occasion.



ASA's should be carried out on a step-by –step basis to determine and legislate for any steps for each activity.

5.3 Activity Safety Analysis (ASA) Procedure

The basic procedure for the ASA is as follows:

5.3.1 Identify the Activity

Activities with an accident/injury or potential activities which are being carried out to new procedure, or with new personnel or equipment.

5.3.2 Carryout the ASA

Round table discussions during which the activity is broken down into logical and sequential steps. Document perceived hazards and discuss ways to reduce the risk or a hazard. Identify additional precautions to be implemented and use of PPE as required. Review similar ASA's for other projects where applicable.

5.3.3 Document and Distribute the ASA

Complete the ASA sheet and attach the sheet to Permits and/or circulate to relevant personnel as applicable.

5.3.4 File the ASA

The ASA should be registered in the ASA file for future reference. The ASA may be amended following the completion of the activity to address / highlight hazards noted during the actual activity that were not raised during the ASA.

The following provides a checklist for Hazard Identification and Risk Evaluation –a Performa ASA Worksheet is included in Attachment 3.

5.4 Hazard Identification and Risk Assessment Checklist

- a) Mechanical, Struck by/caught in/between, struck against, drawn into-struck by ejected material/fluids.
- b) Transport, Land and water related hazards, Collisions.
- c) Handling/lifting Dropped objects strains.
- d) Handling /lifting Dropped objects strains.
- e) Electricity.

- f) Chemical.
- g) Fire / Explosion. Pressure containment failures.
- h) Fumes / Gases / Particles. Hydrocarbon gas /fluid releases
- i) Radiation.
- j) Environment, Noise, light, ventilation, pollution, temperature, confined spaces, bad weather.
- k) Organizational. Lack of /poor supervision, training, information, etc.
- l) Individual. Personal awareness, grooming.
- m) Equipment Damage

6.0 HAZARD IDENTIFICATION, ASSESSMETN AND CONTROL

6.1 Introduction

Safety guidelines are developed to define the minimum criteria for a safe working environment. These guidelines have been developed over the years in line with local statutory requirements and ISTA CTC requirements.

6.2 Safe Conduct

6.2.1 Hard Hats

Hard hats must be worn at designated work areas during working hours. This includes all Worksites and Plants and , any other areas where the hard hat sign in posted.

6.2.2 Eye Protection

Eye protection must be worn for specific activities including grinding, cutting. Welding and chemical handling and other tasks with the potential for an eye injury. It must also be worn in all areas where the rule has been posted.

6.2.3 Hearing Protection

Hearing protection must be worn in all areas where the rule has been posted. In general, this area is where the noise level continuously exceeds 85 dBa (decibel).

6.2.4 Food Protection

Safety shoes/boots must be worn at designated work areas by all workers.

6.2.5 Protective Clothing

Protective clothing must be worn during the execution or certain work i. e. sand blasting chemical handling etc. Also certain Worksites required coveralls as the only acceptable work clothing. Generally, clothing for work must not be loose, nor have any torn or hanging parts. Coveralls where required shall not be short sleeved and shall be of a company approved type and color (normally Safety Orange for offshore sites).

6.2.6 Emergency Procedures

Every employee must know and obey their work place emergency procedures; if they are at Clint's work place they must familiar and be aware of the Clint's emergency response procedure.

6.2.7 Personnel Grooming

Long hairstyles and wearing torn clothing and dangling objects are not allowed in workplace. They can easily get caught in machinery.

6.2.8 Electrical Safety

No person other than the qualified electrician, shall repair, relocate or work on any electrical equipment. Prior to use of any electrical equipment, ensure that these are properly grounded.

6.2.9 Mechanical/Rotating Equipment

Do not operate any mechanical and rotating equipment unless you are qualified and authorized to do so. Ensure that the guard is in place (to protect yourself from moving parts) and never grease any machinery while it is running or, when power is connected.

6.2.10 Material Handling

Keep your hand and body away from pinch prints and from moving objects. Never stand or walk under a load suspended by a crane.

6.2.11 Flammable Materials

Clean up flammable material spillage immediately and safety storage of this material must be done and the proper designated area of flammable other than what it is intended for, is strictly prohibited.

6.2.12 Chemical Handling

The Material Safety Data Sheet (MSDS) must be read and understood before handling any chemicals. Proper chemical suits, gloves and respirators (if necessary) must be worn and other relevant pre-cautions taken. In case of spillage, the area must be barricaded and cleaned up immediately and safely.

6.2.13 Compressed Gas Cylinders

Compressed gas cylinders must always be handled with extreme care (to avoid the possibility of uncontrolled released of gases or explosion). All cylinders must be stacked vertically, firmly securely and stored in a well ventilated area. Labeling and coloring of cylinders shall be verified before use.

Gas supplies to welding or cutting torches shall be turned of at the regulator when not being used.

6.2.14 Tools and Equipment

Only the right tools as required for the job shall be used. Damaged /defective tools must be taken away from place of work and must never be used again. Tools should be stored in a tool box for tool bench and kept in orderly fashion so that may easily be found when needed.

6.2.15 Alcohol and Drugs

Alcoholic beverage and drinks are prohibited at workplace. Drugs other than those medically prescribed or are publicly available are also prohibited.

6.2.16 Smoking

Smoking is strictly prohibited at designated area and all area with "No smoking" sign. Smoking is also prohibited on prohibited on elevated workplaces.

**6.2.17 Horseplay**

Any form of horseplay i.e. practical jokes, abuse of workplace equipment, etc that may lead to accident is strictly prohibited.

6.2.18 Illegal Activities

Any activity that contravenes the law of the country such as gambling, keeping stolen property, fighting, etc. is strictly prohibited.

6.2.19 House Keeping

Good housekeeping is basic to good safety. Workbench tables. Floors and other work areas should be clean. All scrap, litter, broken/unwanted material and unnecessary materials.

6.3 Accident/incident reporting

All accidents, Incidents and near misses observed or happening to any individual must be reported as soon as possible to the appropriate line Supervisor, Urgency of reporting even more critical for injury related incidents.

6.4 Accident Prevention

It is the responsibility of each individual at the workplace to prevent accidents from happening. Due consideration shall be given to the following:

Wearing personnel protective equipment even though it may not be a mandatory requirement of the Workplace.

Practicing a safe work approach such as planning for work, communicating with related parties and securing the work area prior to commencement of the activity .

Using the correct tools for the work.

6.5 Photographs

No cameras are allowed in the workplace unless authorized by the person in charge.

6.6 Fire Fighting / Prevention

Ensure that all fire fighting equipment is visible and identified. Ensure personnel have adequate knowledge on the selection and use of applicable fire fighting equipment. Adherence to Hot work precautions is mandatory.

6.7 Entering a Worksite

No employees, contractors, visitors or members of the public are allowed to “wander around” a Worksite unless permission been given by the person in charge.

The employee must strictly obey any safety signs posted at the Worksite. Personnel must ensure that they are not endangering themselves when entering this place.

Personnel protective Equipment requirements and, permit to work requirements must e complied with.

“No smoking’ rules must be strictly adhered to and No smoking “signs must be taken seriously as explosive and flammable materials may be present at workplace.

6.8 Preparations Prior to Executing Work

The scope of the work and its relation to other works or systems must be clearly understood by the person doing the work.

All potential hazards are to be identified and highlighted in the toolbox meetings.

Where applicable an ASA sheet or pre-activity meeting shall be arranged by the safety Officer.

All stipulated safety precautions shall be carried out and checked by the person doing the work.

Work permits (if applicable) have to be endorsed by the relevant Supervisors.

Ensure any fire fighting equipment that may be required is put on standby and are in good working condition.

Ensure proper sign board , warnings and barriers are strategically placed.
Ensure that the correct tools are used and are in good working condition.

6.9 Personal Protective Equipment (PPE)

The requirement to wear PPE applies to all employees and contractors whenever they are inside a ISTA CTC Worksite. This includes proper clothing, safety helmet and safety shoes/boots. Other PPE such as safety spectacles, gloves, ear plugs/defenders, etc. are to be used as and when required. All employees will be provided with the necessary PPE and it is their responsibilities to:

Take the necessary precautions to ensure their own safety.

Utilizing protective clothing and equipment as directed by the applicable supervisor or safety officer.

6.9.1 Personal Protective Clothing

All employees and contractors are required to use proper work clothing when they are at the worksite. This clothing could be in the form of coverall or a combination of , parts and long sleeved shirt. No singles, short pants, and loose clothing are allowed as it might become entangled with rotating equipment. Visitors are also required to abide by this rule.

6.9.2 Head Protection

The purpose of Head Protection is to safeguard individual from the impact of falling or flying objects as well as to provide protection against knocking on stationary objects. Safety helmet must be worn in all designated areas. For all ISTA CTC worksites, all areas are normally safety helmet designated areas except the Worksite offices. Visitors are required to abide to this requirement. Metal helmets are not allowed, as they do not meet the electrical conductivity requirement.

Metal helmets are not allowed, as they do not meet the electrical conductivity requirement. Frequent inspections of safety helmets are required to ensure that there are no cracks and that the suspension is in good condition. Normally safety helmets require replacement every 2 years.

6.9.3 Foot protection

The purpose of Foot protection is to protect the feet and toes from a crushing injury and piercing by sharp object. This is achieved by wearing safety shoes/boots. Some safety shoes have electrical resistance features in them. Basically safety shoe must have steel toe, be resistant to hydrocarbon fluids and, have anti-slip soles. Steel plate type shoes/boots are recommended when there is a danger of sharp objects puncturing that sole. Visitors to are recommended to wear safety shoes whenever they are at the Worksite but this is not a mandatory requirement by the Company.

6.9.4 Hearing PROTECTION

Hearing protection in the form of earplugs should be worn at all time in designated areas and when the noise is continuously in excess of 85 dBA .this will prevent loss of hearing .which could occur due to constant and repetitive exposure to high noise. it properly inserted ,earplugs can reduce the noise level to 25 dBA. it properly inserted ,earplugs can reduce the noise level 25 dBA. it should be noted that foams type earplug re consumable item and not as effective after initial use. If removed from the ear they should be replace.

6.9.5 Eye protection

Eye protection must be worn when there is a strong possibility of the existence of the following danger:

- Flying object, grit, missile, etc.
- Chemical splash
- Welding sparks and flash
- Excessive glare and heat
- Ultraviolet

Eye protection must be worn in all designated areas for specific tasks.

There are a variety of different type of eye protection available however .they are designated to handle specific hazards which are encountered at specific work .thus no one type of eye protection available for various situation:

- Safety Glass – protection against flying object, grits, etc.
- Chemical splash Goggles –chemical handling
- Welding mask –are welding.
- Burning goggled – oxyacetylene cutting and welding.



6.9.6 Fall protection

Fall protection in the form of a safety belt is needed when working on a temporary structure of height 3 meters and above ground /platform level .for work that is executed from a height of 3 meters and above and without having a temporary structure a safety harness is required .only approved safety belts and safety harness shall be used .

6.9.7 Respiratory protection

When the atmosphere is contaminated and will not support life due to either oxygen deficiency or airborne particles, then respiratory protection is needed.

Respiratory protection equipment can be into -:

- Supplied air respirator (SAR) e.g. self contained breathing apparatus (SCBA) and airline breathing apparatus.
- Filtering respirator E.G face mask and canister respirator

- SAR s are to be used in closed in closed vessels for and blasting and painting work .while working in an environment ,which contain dusts vapour /fumes and smoke ,a filtering respirator should be used .however, careful selection must be made to ensure suitability.

6.10 Working at elevated workplaces

This is a condition when a person s to work 3 meters and above from the ground or walking level .such person working at such a height must be protected from falling by:

- Erecting scaffolding including handrail and where applicable kick plates/
- Using safety belts or safety harnesses.
- Erecting temporary work platform.

To work at elevated places the following steps and precaution are to be taken:

- For all works to be carried out on temporary structures at the height of 3 meters and above ground level .ladders and platform shall be provided .
- "danger-Watch your head "and "man working above sign" shall be displayed at the scaffold platform is free from grease, oil, unsecured materials and equipment.
- Ensure to erect the correct type of scaffold i.e. heavy duty or light duty or "A" frame duty.
- "A" frame type structures are to be used for maintenance or repair works only.

- Ensure the use of metal tubular of the correct size, boards, steel ladders and sole plates and install safety barriers of scaffolding platform .ladders shall properly secured.
- Secure and never leave loose items unattended at height.
- Be aware of high wind speeds-where applicable, as it could be dangerous for workers at heights.

6.11 Confined Space Entry

A confined space is defined as any space which may trap toxic gas and may not have sufficient oxygen to support life; the inside of vessel. Tank and pipeline is always considered confined space .under the right conditions, trenches and sewer system can trap toxic gas or be deficient of oxygen.

Before a person start entreating the manhole or entrance point of a confined space the follow steps and precautions must be taken:

- Ensure that the confined space is physically isolate from the rest of system i.e. by blanks .spades and dropout pools
- Ensure that the minimum 2 nozzles of suitable size to ensure adequate airflow are open with educator fans provided constant airflow inside the vessel.
- Ensure all machinery to and forms the confined spaces are physically isolated.
- Ensure that the oxygen content is greater than 19%
- Ensure that enough lighting is available in the vessel
- Ensure self –contained breathing apparatus ,lifeline and a standby person is present at all time outside the confined space when someone is inside
- Ensure that where applicable the work permit been endorsed by the supervisor .for confined spaces that had been introduced with hydrocarbon before entry, additional precaution or combustible gas is present.
- Ensure no hydrocarbon or combustible is present
- Ensure that toxic gases such as benzene and hydrogen sulfide are not present.
- Ensure that lighting and fans used are of explosion proof type .



6.12 High Pressure water jetting

As an alternative to grit blasting, high – pressure water jets are used to prepare metal surface for coatings and finished .the hazards that arise from this type of activity relate the high pressure i.e. as high as 800 bar, which may cause server injury .the following steps and precautions need to be taken prior to starring the high pressure jetting work -:

- Obtain the necessary permit for work.
- Personnel involved in the work must be experienced and trained:
- Ensure that a shut off device or dump valve is installed.
- Continuous and constant supervision must be available throughout this work .
- Roped off 10m radius at the area of work.
- "Do Not Entry " _high Water Jetting in Progress" sign to be posted anal employees ere to be informed of this work
- All the equipment and hoses have inspected
- Protect /shield other equipment /area to prevent water splash
- The jetting gun operator must wear proper protection clothing suitable for this job.

6.13 Pressure Testing

Pressures Testing Activities are potentially hazardous due the high pressures involve with his type of activity .as a minimum the below listed precautions be taken.

- Obtain any necessary permit and clearances
- Rope off the area of work 15 meters around.
- Hang or place warning signboards "DANGER PRESSURE TEST IN PROGRESS" all around
- Ensure only the minimum number of authorized personal are present in the pressure test area.
- Ensure the gauges are correctly calibrated to the desired pressure.

6.14 Girt Blasting and Painting

Blasting and Painting activates involve the use of high-pressure hoses and flammable liquids .blasting operation generate high noise levels and blasting gun if not used correctly can cause server injury .the following precaution shall be token.

- Obtain any necessary permits and clearances.
- Ensure usage of proper PPE
- Ensure that necessary ventilation is provided including respirator and/or breathing apparatus for confined space work
- Rope off blasting area and use proper shielding.
- Paints, thinners , solvents ,etc ,in quantities grater then needed for one days work must be sorted outside of the work area improper storage bins
- NOTE: Sandblasting is not allowed by some countries' government regulations as it is a health ad, environment hazard.

6.15 Excavation works

Excavation work involves the use of heavy machinery and by the nature of the creates large holes in the ground, which could be hazard .the following precautions shall be token.

- Obtain any necessary permits and clearances.
- Ensure that there are no underground cables ,pipes etc at the place of work.
- Rope off the area signboards "DANGER EXCAVATION WORKS IN PROGRESS" and place warning lights at night.
- Ensure fire fighting and rescue equipment (i.e. ladders)are nearby
- Ensure no loose earth is placed at trench openings (for deep trenches)
- Ensure all earth moving machinery is inspects before use
- Where a hot work permit is applicable spark arrestors are be fitted o moving machinery.

6.16 Lifting Activities

Lifting activities due to their nature are always a soured of potential hazard. The following precautions are required to be taken

- Obtain any necessary lifting permits and clearances
- Always study and check with crane foreman for advice before lifting heavy loads.
- Check the ground where the crane is to be placed
- Ensure that all lifting equipment /device are in good working condition(i.e. crane ,hoist ,brakes ,boom ,and cables ,sheaves etc).check that all cranes are suitably certified and tested be fore commencement of lifting operations.

- Check all wire roses, chains or slings use, effective equipment shall not be used .a register of certified slings and shackles shall be maintained.
- Ensure that there is one only signalman who is marked by the crane operator
- The signalmen must stand at area where he can see the load an also the operator during lifting.
- A uniform signal system with whistle , hands, and transceivers shall be used
- Stop lifting works if risky conditions are detected .all lifting shall be initially approximately a lift of 10 cm from ground
- Do not lift during bad weather i.e. strong wind ,rain ,or night
- Always use guy ropes to control load when lifting in order to avoid swaying
- Supervisor ad safety officers to be at site during lifting operation of heavy loads.

6.17 Traffic Regulations

- Obtain the necessary vehicle entry permits before traffic is permitted on the worksites.
- Ensure all motorized equipment is operated by licensed drives.
- Ensure all vehicles have road taxes and are insured before exit on the public roads.
- Ensure all vehicles are in good working condition.
- Ensure the drivers do not carry excess passengers or overload.
- Ensure proper parking of vehicles, do non park at the "NO PARKING AREAS". Fire hydrants, fire fighting equipment, building entrains. Etc.
- Ensure drive to follow refinery/plant speed limits.
- Ensure proper grounding of vehicles (Static Electricity).

6.18 Equipment (Welding Machines, Air Compressors)

- Obtain applicable permits for equipment
- Ensure equipment is clean (no oil leak) and in good working condition.
- Ensure equipment has proper has guards for belting, fan, pulleys etc.
- Ensure equipment is fitted with anti-electric shock device.

- Ensure all equipment is tested before use to verify safe operating condition.
- Ensure all exposed terminals are properly covered and weather proof.
- Always stop the engine for oil filling (replenishment).
- Ensure proper grounding of equipment.
- Ensure all equipment is equipped with a serviceable class ABC fire extinguisher.
- Welding equipment shall have had a calibration check carried out before production use.

6.19 Compressed Gas Cylinders

- Always store gas cylinders in well –ventilated location under shades.
- Always store gas cylinders in upright position and away from overhead power lines , electrical switchboards.
- Ensure gas cylinders are turned off properly at the regulation if not in used or for transport.
- Ensure gas cylinders valves are free from oils or grease.
- Keep gas cylinders in use away form falling sparks, fire and electrical power switches.
- Ensure that all hoses for gas cutting are free from leaks, cracked , bad joints and connections.
- Cylinder shall be preferably stored in racks single cylinders shall be secured to prevent falling over.

6.20 Hand Tools and Power Tools.

Hand tools shall be of goods quality and be periodically cleaned and oiled to prevent corrosion.

Hand tools should be inspected both before and after storage. Damaged tools that cannot be correctly repaired are to be discarded.

Hammers

It is essential that the right kind of hammer be selected for the job. Hammer handles should be made from smooth timber or be made of an integral head and shaft steel.

Chisels

Cutting edges should be kept sharp at times and the original shape and angle maintained. Re-sharpened cold chisels should be suitably hardened and tempered to maintain them in a safe working condition.

Picks and Shelves

Picks and shovels shall at the all times be maintained in a serviceable condition. Shovel blades should not be allowed to become blunt, turned, split or jagged. Pick head point should be sharp and heat treated so that the metal wears down in use and does not splinter or chip off.

Spanners and Wrenches

Only spanners and adjustable wrenches of the right size should be used. The jaw should first be checked for any sign of opening out or splitting.

Spanner and wrench lengths are graded to provide sufficient leverage on the nuts for which they are designed. For heavy work, a properly designed slugging wrench should be use.

Pipe Wrenches

Pipe wrenches must be large enough for the job, and jaw teeth kept clean and sharp and the knurl, pin and spring should be kept free from damage. Pipe wrenches should never be struck with a hammer nor should they be used as a hammer.

Pliers

Pliers should only be used when there are no other tools for the job. They should be placed on a firm and solid support and the load should be positioned on the centre line of jack. "Safety stops "are to be used under all equipment raised by jacks.

Hacksaws

Many kinds of woodworking handsaws and hacksaws are available and care should be taken to select the correct saw. All handsaws shall be regularly examined to ensure that the saw teeth are properly set so as to avoid binding in the timber or metal that can cause the blade to buckle.

**Power Tools**

- All portable power tools provided shall be manufactured of sound materials and free from defects.
- All defective power tools shall be reported and reported and returned to the stored.
- Do not use tools for purpose for which they are not designed.
- All portable power tools shall be stored in a clean dry condition. Storekeeper shall provide inspection and maintenance for all power tools.
- No authorized personnel shall attempt to repair damages/defective power tools.
- All power tools (pneumatically or electrically powered) shall always be use under supervision.
- All Compressor air hoses shall be of the correct size and rating to fit the tool being used.
- All air Compressor shall always be under the supervision of a competent person.
- During operation all rotating tools such as grinders and saws should be held firmly to prevent them spinning and jumping.

6.21 Scaffolding and Ladders.

- All scaffolding shall be erected in conformance with good engineering practice.
- A regular inspection shall be conducted on scaffolding tubing. Couplers. Clamps, etc. to determine its conditions. Those found unsound shall be discarded.
- Scaffolding should only by erect on a solid foundation base.
- Planking on scaffolding should be timber. All planking shall be secured to the scaffolding tubular.
- Personnel working n a scaffold without guardrail more than 6 meters above grade shall wear suitable fall protection.
- All ladders used will be of heavy industrial construction quality and shall be secured to the scaffolding.
- Aluminum ladders shall not be used near electrical apparatus or where they will be in contact with seawater.

- Ladders will be inspected prior to use and, on periodic basis by the supervisor.
- Personnel working from a ladder more than three meters above grade shall wear suitable fall protection.
- The safety officer when applicable shall fit scaffold tags.
- Unsecured objects shall not be placed on scaffolding.

6.22 Fire Fighting and Emergency Evacuation

- Always ensure adequate fire fighting equipment is at hand when carrying out Hot Work.
- Take all necessary precautions to prevent fires and provide. Maintain and regularly inspect the required fire extinguishers.
- Do not go to plant fire unless called to do so.
- Emergency evacuation areas and Muster Stations are as designed by the Safety Officer.

6.23 In case of Fire

- Stop all works and raise the alarm.
- Try to put out fire with fire fighting equipment an hand.
- Switch off all running equipment.
- Wait for further instruction.
- Switch off all running equipment.
- Do not obstruct traffic along access roads.
- Make way for fire trucks if you are driving.
- Safety officers and supervisors to control orderly evacuation of workers to safe areas. (Safe areas should be briefed to workers during safety briefing).

6.24 Radiography

- All radiation equipment and, radioactive materials must be handled by trained radiography personnel. The regulations for storage, handling and transportation must be adhered to so that no person receives an unnecessary dose of radiation.
- All radiation sources must be stored in a leaded metal container c/w locks for security.
- Radiation source must be stored in proper fenced up bomb pits c/w international radiation warning sign display
- All radiation sources must be transported in leaded in leaded metal containers with warning signs displayed.

- Before radiography, inform safety officer for area clearing.
- Fence up the area with ropes, warning signs, buntings displaying radiation signs (Blinkers or warning lights are to be displayed during night radiography) within radius of 6 meters from the radiation working spot for a 20 MR (milligram) radioactive source.
- Ensure that only authorized personnel are in the working area during radiography.
- Ensure all radiography personnel are equipped with film badges.
- Radiography supervisor must be on site during radiography works.
- Ensure Geiger counter is on site at all items.

6.25 Housekeeping and Materials Disposal

- Ensure housekeeping is done daily at the end of the day's work so as to prevent the least possible hazards to, and interference to traffic.
- Aisles and passageways shall be kept clean to provide for free and safe movements.
- All waste material and debris by burning shall comply with local regulation.
- All solvent waste, oily rags and flammable liquids shall be kept in rubbish bins/drums with fire resistant cover until removed from worksite.
- All toxic waste shall be disposed off in designed locations allotted by clients.
- Ensure use of protective clothing and equipment when handling toxic wastes.
- Access and egress to all exits, fire and safety equipment, and work areas must be kept clear of obstructions at all time.
- If in doubt, consult with safety officers of refineries/plants you are working for or your own safety supervisor.

6.26 Contact after Hours

- The name, position, telephone number, alternate telephone number and address of each supervisor shall be entered on a list which shall be given to the Worksite Manager for posting in the Project offices and at the security gate. This list shall be displayed at all times.
- The Client Yard/Worksite representatives shall be advised immediately of any changes, and a revised list shall be issued.



6.27 Accidents

6.27.1 Reporting

All work –related injuries, illnesses and damage to property and equipment shall be record on the Accident Report Form.

The following incidents are to be immediately reported by the Supervisor to the Safety Officer and Construction Manager and, to any Client Worksite representatives.

- All work injuries (LTI'S).
- All fires.
- All motor vehicles collisions occurring at the work site and those occurring off site involving company vehicles or vehicles driven by company employees.
- All damage to equipment, pant and property.

6.27.2 Accident Investigated

The following types of occurrences shall be formally investigated and an investigation report is to be submitted by the supervisor to the safety officer.

- Employee fatalities.
- Employee serious injuries and illnesses (serious injuries and illnesses involve hospitalization for at least for at least 24 hours for other than diagnostic purposes, or an amputation of part of the body, except removal of a small area of skin such as the fleshy tip of finger or toe).
- Each occurrence of damage of plant, equipment of other property.
- All fires and combustible gas explosions.
- All vehicle collisions occurring on site and those off site and involving our vehicles or vehicles driven by company employees.
- Damage to property of others.

6.28 First Aid

A First Aid station c/w medical supply shall be available at all Worksites.

Full details of local medical facilities shall be displayed in the Worksite offices.

Immediate transport shall be available for personnel movement from the Worksite to a local Medical Center shall be available at all times.



6.29 Security and Worksite Entry

All Worksite shall be secure. Where applicable guards shall be employed . All visitor wishing to enter the Worksite shall be required to register at the guardhouse/reception area and, shall be issued with a security pass. Security passes may be restrictive and as such, the Worksite Safety Officer shall advise all visitors during the initial safety briefing, of any restrictions for visitors at the Worksites.

Visitors are to return the security passes to the guardhouse/reception area on leaving the Company's Worksites.

7.0 EMERGENCY RESPONSE

7.1 Purpose

To ensure a uniform approach by all site personnel during an emergency it is therefore a must that all site personnel familiarize themselves and, adheres to the guidelines set down.

7.2 Objectives

To minimize the risk of injury and, loss to personnel and to facilitate a timely, organized and effective response in the event of an emergency being declared. Where applicable, a project specific Emergency Response plan shall be prepared to supplement the basic guidelines of this document.

7.3 Definition

An “Emergency “is an occurrence-giving rise to situations whereby serious injury and/or property damage may occur.

7.4 Emergency Response Procedures

7.4.1 In case of Accidents/Injuries

In case of an accident/injury that requires medical attention; send a person to call the Project first aid facility or clinic.

The Yard/Worksite emergency vehicle shall be immediately dispatched with the project nurse and/or doctor to the scene of the emergency upon receiving the call and, then onto the point of medical treatment.

The project nurse and/or doctor shall render first aid and assistance as appropriate. In the event the injured person (s) needs to be taken to the hospital, the Yard/Worksite Safety Officer will telephone the hospital ahead to advice of the emergency.

7.4.2 Incase of Fire

Raise the fire alarm or call the Fire emergency phone number fore the area.

If possible, attack the fire with fire extinguisher or fire hose to put out the fire. However, personnel shall under no circumstances put themselves at risk.

Should the fire get out of control personnel shall leave the area immediately and, proceed to designate assembly assembly area/muster points?

7.4.3 In Case of Chemical Intoxication

Chemical intoxication is life threatening. IT should be recognized early and, first aid procedures and defied treatment should be instituted promptly.

Skin Contamination

Remove the victim from the source of contamination.

Remove all contaminated clothing.

Wash affected areas with soap and, potable water.

Obtain medical assistance.

Eye Contamination

Hold eyelids and wash affected eye with gentle stream of potable water immediately.

Wash the affected eye 10-15 minutes.

Do not use chemical or drugs in washing water as they may increase the extent of injury.

Obtain medical assistance.

Inhalation

Remove the victim from the area of exposure. If the victim is in a confined space do not go in after him without any knowledge on rescue procedures and, appropriate PPE's

Carry the victim to fresh air immediately.

Keep the patient comfortable, loosen all tight clothing.

Obtain medical assistance.

7.4.4 In Case of an Earthquake

In Case of Tremor

Seek cover under desk.

Stay away from stacking area where drums, cylinders, carton or other materials may fall down.

Stay away from overhead electrical lines.

Watch out for falling debris from building, signboards, lampposts, etc.

Action to be taken after the Tremor

Safety Officers shall inspect their respective areas for damage and potential instability. Report any areas of concern to the Company yard/Worksite Manager /Representative for immediate correction.

7.4.5 In case of Typhoon/Storms

Since severe tropical storms/typhoons may cause damage to the construction site and create dangerous work situation, measures shall be taken by the Company Engineer and Contractor.

Safety Officer shall secure from the local Meteorological office information of impending and storms/typhoons approaching the county.

Typhoon Signal No.1

Winds of 30-60 kph or intermittent rains may be expected in at least 36 hours. Safety Officer shall inform all Site Contractors of incoming typhoon and, ensure all necessary precautionary measures are ready and on stand by for implementation.

Construction work may be carried out as usual except when potential flooding may occur.

Typhoon Signal No.2

Wind of greater than 60 kph and up to 100 kph may be expected in at least 24 hours. Safety Officer shall ensure that all safety precautionary measures are implemented and, completed.

Company Yard/worksite Manager / Representative may suspend construction works depending upon the situation.

Typhoon Signal No.3

Wind is greater than 100 kph up to 185 kph may be expected in at least 180 hours. All construction works and /or related works are immediately and suspended and, that all non-essential personnel are, to leave the site.

Company Yard/worksite Manager/Representative shall inform Contractors immediately and, arrange for essential staff only to be on stand-by on site, to respond to project emergency.

Typhoon Signal No.4

Very strong winds of more than 185 kph may be expected in at least 12 hours. All travel and outdoors activities should be totally cancelled.

After the Typhoon

Safety Officer shall inspect their respective areas for any damage to property or potential instability and, immediately inform the Company yard/Worksite Manager/Representative for corrective measures.

7.4.6 In case of Flood

Floods normally follow heavy rains brought about by typhoon

When flood water starts to rise

Company Yard/Worksite Manager/Representative shall order to stop the construction works.

Safety Officer shall ensure all electrical breakers have been shut off.

Contractor shall secure all materials, which will be spoiled by flood water.

When flood water begins to recede

Safety Officer shall conduct an inspection and report damage to the Company Yard/Worksite Manager/ Representative for immediate correction.

7.4.7 In case of Chemical / Oil Spillage

Report immediately any chemical /oil spillage to the Company yard/Worksite Manager / Representative

Stop all activities in the affected area(s)

Evacuate all personnel from area that may be exposed to the spilled substance. Especially to vapors.

Only trained personnel will be allowed to do the clean up operation.

If personnel are injured/exposed to chemicals obtain medical assistance.

7.4.8 Emergency Evacuation

Purpose

To provide an orderly evacuation and, accounting of site personnel in the event of an emergency evacuation.

General Procedure

The Company Yard/Worksite Manager/Representative will sound the emergency site alarm for any uncontrolled fire or gas leak or civil disturbances. Upon hearing the alarm all work shall immediately be stopped and equipment shutdown. All personnel shall proceed to the designated emergency Assembly point / Muster area.

Contractor shall make immediate head count of their work force and report all unaccounted personnel to the engineer.

Safety Officer reports all accounted personnel to Company Yard/Worksite Manager/ Representative.

Safety Officer shall administer and coordinate rescuer and emergency operation as required.

All site personnel shall remain at the Assembly point as directed by the safety Officer. To facilitate an effective response to an emergency situation, all communication lines (telephones, radios) shall be left open for emergency use only.

After the emergency has passed, the emergency site alarm will again be activated declaring an "ALL CLEAR" situation. All site personnel shall remain at the Assembly point and await a "RETURN TO WORK ORDER" from the Safety Officer.

8.0 ENVIRONMENTAL PROTECTION

8.1 Introduction

ISTA CTC is committed at all levels within the group to continually reviewing and researching our technologies to develop safer and cleaner processes and work methods and, to make more efficient use of energy , natural resources and raw materials.

ISTA CTC is committed to providing a healthy working environment for our employees



Environmental considerations include but are not limited to:

- Control and Monitoring of discharges to air, water and land
- Waste disposal
- Spillage Containment and Disposal
- Site upgrades and, Refurbishment
- Damage to natural resources
- Sites of significant importance to the local community
- Damage/blockage of drainage channels
- Standing water
- Re-use/recycling of materials
- Hazardous Materials

8.2 Assessment

The assessment of the effect of the programs introduced by ISTA CTC will only be available long term. Where possible contact should be maintained with Owners/Operators of equipment designed and supplied by ISTA CTC to allow recording and, subsequent analyzes of results.

8.3 Environmental Protection Guidelines

8.3.1 General

Written consent is required before:

- Fires of any type are deliberately started
- Excavations are dug or cut

No cats, dogs or other pets are to be brought on the worksite.

8.3.2 Diligence

All employees and contractors shall exercise all reasonable diligence to conduct operations in a manner that will prevent pollution and, shall comply with acts, regulations and bylaws that are applicable at the worksite.

8.3.3 Pollution

Contractors shall not allow trash, waste, garbage, consumables, paints, solvents concrete, rubble, refuse or any pollutants to escape from plant or equipment under their control.

In the event that during operation equipment hoses burst it is the responsibility of the contractor to remove any polluted or contaminated soil, water etc to a prescribed area.

The Contractor shall keep the Worksite clean and tidy and shall regularly remove rubbish and surplus materials resulting from construction activities. Any incident resulting in pollution of the environment shall be notified in writing within 24 hours the ISTA CTC Worksite representative.

The Contractor shall take all reasonable measures to instruct their employees and, subcontractors in such matters and, to prevent pollution.

8.3.4 Disposal of Refuse

The Contractor shall not dispose of any refuse from the works including without limitation waste oils and chemicals without the ISTA CTC Representative prior approval of the disposal method and location at which the refuse is to be disposed. The Contractor shall provide adequate security of all refuse loads to be moved to prevent accidental spillage and / or roadside litter.

8.3.5 Access Roads

The Contractor Plant and equipment shall be restricted at times to established roads, access routes and working places. All reasonable efforts are made to prevent unnecessary damage to the surface of the work area and, adjacent areas. New roads or access routes shall not be developed by the Contractor without prior approval from ISTA CTC Worksite representative.

8.3.6 Flora and Fauna

The Contractor shall take all reasonable steps to minimize the disturbance of native flora and , the natural habitat of native fauna.

8.3.7 Standing Water

The Contractor shall take all necessary steps to ensure that standing water is not allowed to accrue at Worksites.

Worksite drainage channels (permanent and temporary) shall be regularly inspected for blockage.

9.0 TRAINING

9.1 General

It responsibilities of all line managers and supervisors to ensure that their subordinate staff are adequately trained and , aware of health Safety and Environmental protection matters relating to the company's business.

Regular briefing of employees by the HSE Manager and /or Safety Officer shall be carried out.

It is a company requirement that all employees required to carry out work on an offshore facility shall have attended and successfully passed as a minimum. A Combined Safety course (Sea Survival, fire Fighting and HUET) irrespective of whether or not this is a particular client, Owner or Operator requirements.

Records of all Safety training completed by employees shall be maintained by the HSE Manager.

Where applicable, the HSE Manager shall arrange for Specialist of Professional briefings of employees.