Simultaneous Operation (SIMOPS)
HSE Procedure

HEALTH, SAFETY AND ENVIRONMENT PROCEDURE

Simultaneous Operation (SIMOPS) HSE Procedure

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Simultaneous Operation (SIMOPS) HSE Procedure

### Document Authorization

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SUGGESTION FORM
1. INTRODUCTION

Pars Oil and Gas Company (POGC), a subsidiary of National Iranian Oil Company (NIOC), was established in 1998. POGC is a developmental and manufacturing organization that specializes in the fields of engineering and management of development projects, production, operation and integrated management of oil and gas reservoirs. POGC’s mission is to ensure sustainable and preservative production and development of Iran’s oil and gas industry in the areas under its responsibility, development of oil and gas value chain as well as optimization of energy supply processes at national, regional and international levels. POGC is also in charge of development of joint and non-joint oil and gas fields of the country including South Pars, North Pars, Golshan and Ferdowsi.

Aimed at creating superior value and boosting the level of satisfaction of the beneficiaries and with an approach focusing on sustainable, integrated and knowledge-oriented production and development, the company feels committed to comply with national and international requirements, regulations and standards in such areas as quality, safety, as well as occupational and environmental health.

2. PURPOSE

The purpose of this Simultaneous Operations (SIMOPS) Procedure is to provide all personnel from the construction and commissioning groups who are involved with simultaneous operations on POGC projects with a sound knowledge of the relevant safe work practices and procedures applicable to simultaneous operations. This Procedure shall also be used to determine the compatibility, interference and limitations raised during the planning and operational stages of any simultaneous operation.

The activities covered by this document are as follows:

a) The remaining construction activities (i.e. lifting and rigging, confined space, naked flame and hot works, etc.)

b) The commissioning activities.

c) Production activities after partial hand over to production.

d) Assuring compliance with Permit to Work Procedure.

Should it be deemed necessary, specific operations must be reviewed on a case by case basis with a risk assessment such as a job safety analysis being developed as need arises.

Additionally, the requirements of this Procedure shall ensure that any activity or works in any given area, where joint activities may be on going simultaneously, are reviewed and analyzed for potential interference or limitation. The requirements of this Procedure are:

Establish a mechanism for the review of proposed activities (e.g. meetings, toolbox talks, etc.) to identify department and subcontractor participation.
Establish a matrix of responsible personnel who shall authorize such simultaneous activities.

Ensure simultaneous activities are controlled and performed in a safe manner by:

a) Defining the responsibilities of all personnel involved in the tasks.
b) Appointing a Simultaneous Operations Leader (SOL) to coordinate the activities between the different organizations.
c) Identifying any preventive safety measures, which shall be implemented prior to commencement of the simultaneous activities.
d) Limiting the number of simultaneous activities in any given area.
e) Avoiding interference during Production Operations after Early Production.
f) Establishing communication channels.
g) Providing training of all personnel involved in the tasks.

To minimize the potential for personnel injury and equipment damage by:

a) Controlling and restricting personnel access to areas where simultaneous activities may be taking place.
b) Providing specific instruction for securing (making safe) operations and mustering personnel in case of emergency.
c) Ensuring that all personnel involved in the simultaneous tasks are aware of the specifics of simultaneous operations and emergency procedure.
d) Identifying hazards and evaluating the consequence of failures.

This Procedure shall further ensure that nothing is done, during the performance of these tasks, to prejudice the safety of personnel or the Plant.

The work activities covered by this Procedure shall include but not be limited to following:

a) Any works significant in nature such as large construction jobs, change-out of major rotating equipment, naked flame and hot works in restricted areas, blasting and painting works, radiography, entry into confined space, rigging and lifting works over live equipment or plant, etc. and which occur in the areas under commissioning control.
b) Any works that pose a significant hazard such as working in areas where there is a risk of hydrogen sulphide gas (H₂S), activities where special chemicals are utilised, works in which multiple subcontractors are involved.

The above examples are not inclusive and other work activities may also be covered under this Procedure.

3. **SCOPE**

The requirements of this Simultaneous Operations Procedure (SIMOPS) shall be applied to all POGC construction, commissioning and production activities to highlight and mitigate any potential restrictions and/or safety impact when planning SIMOPS work activities due to take place at the same time and in the same/vicinity location.
As a minimum, this Procedure shall be distributed to the personnel referenced in the list below. The copies shall be distributed by the Document Control Centre.

Minimum distribution List
a) Site Manager  
b) General Construction Manager  
c) Area Construction Managers  
d) Commissioning Manager  
e) Installation Commissioning Authorities.  
f) Area Commissioning Authorities.  
g) HSE Manager  
h) Area HSE Managers  
i) Simultaneous Operations Leader  
j) Production Superintendent  
k) Fire and Rescue Chief  
l) Subcontractor Site Representatives

4. RESPONSIBILITIES

4.1 Site Manager
He has overall responsibility for SIMOPS.

4.2 HSE Manager
- Review SIMOPS activity and agree priorities, interfaces, etc.  
- Check Job Safety Analysis is prepared and approved.  
- Convey HSE expectations to subcontractors.  
- Confirm Work Permit is applied for and approved.  
- Check rigging and electrical tools are inspected.  
- Check toolbox meeting held.  
- Check fire and rescue team is notified.  
- Ensure subcontractors are familiar with incident reporting procedures.
- Ensure on-site construction and safety monitoring occurs.  
- Arrange training, as required.

4.3 Simultaneous Operations Leader (S.O.L.)
The Simultaneous Operations Leader (S.O.L.) is responsible for proper coordination and safe simultaneous interfaces between departments as well as identification and resolution of any potential impact on other operations.
The S.O.L. liaises with all department heads and supervisors such as Production, Construction, Commissioning, Maintenance, Safety (HSE), Installation and Area Authorities.
The S.O.L. ensures that all members of the operational teams duly enforce the requirements of this SIMOPS procedure. However both Construction and
Commissioning and Production teams shall remain fully responsible for the safe management of their own operations.

The S.O.L. acts under guidance and control of the Site Manager, additionally he will report and liaise with Construction, Commissioning and HSE departments as required.

It is the responsibility of the SOL to follow up to completion of all planned SIMOPS activities and to report to the Site Manager any trend or omission, which could potentially jeopardize the planning schedule, work areas or Plant.

In the event of a disagreement regarding the safety or schedule of a proposed simultaneous operation or the continuation of an activity in progress, the matter should be decided by the SOL and referred to the Site Manager for approval.

The SOL shall attend the daily permit to work coordination meeting.

4.4 Commissioning Manager

In addition to the duties defined by the Permit to Work Procedure (Refer to Doc. No.: MA-64-POGC-001) the Commissioning Manager is responsible for:

a) Overall control of all commissioning works.

b) Authorisation of commissioning personnel as follows:
   - Installation Authorities.
   - Area Authorities.
   - Permit Controllers.
   - Panel Operators.
   - Senior and Authorised Electrical Responsible Persons.

c) Safety Systems Inhibits.

d) Control of the Permit to Work System.

4.5 Installation Authorities

In addition to the duties defined by the Permit to Work Procedure area nominated Installation Authority is responsible for:

a) Evaluating the intended work, including worksite inspections to highlight any potential implications.

b) Evaluating any work with regard to possible implications outside their own areas of responsibility and identifying these implications to the SOL and Permit Controller.

c) Identifying the requirements for any electrical and/or process mechanical isolation.

d) Ensuring all necessary lock-out and tag-out requirements are in place.

e) Ensured proper authorisation, issue and cancellation of all Main Permits in their areas.

f) Planning, coordinating and authorising all Naked Flame Permits.
4.6 Area Authorities

In addition to the duties defined by the Permit to Work Procedure the Area Authority is responsible for:

- Authorising and coordinating any necessary electrical and/or process / mechanical isolation.
- Delegating the issue and cancellation of the following Complementary Permits to the appropriate Senior and Authorised Electrical Person:
  - High Voltage Electrical Isolation.
  - Sanction for Test.
  - Low Voltage Electrical Isolation.
  - Limitation of Access.
- Ensuring proper authorisation, issue and cancellation of other Complementary Permits in their areas.
- Reporting deviations in the conditions of the Permit during the progress of the task and, if necessary, the Permit is suspended or cancelled.
- Acting as delegate for the Installation Authority during his absence (e.g., on night shift) for authorisation of Main Hot / Main Cold Work Permits, (excludes Naked Flame Work).
- Arranging with the Senior Panel Operator for any necessary inhibits of emergency systems.

4.7 General Construction Manager

The General Construction Manager is responsible for:

a) Overall control of all remaining construction activities.
b) Authorisation of personnel as follows;
   a) Area Construction Managers:
      a) Coordinating with the area planning and control sections to ensure most optimum schedule is achieved for all SIMOPS works.
      a) Liaising with the S.O.L. HSE and Commissioning Manager to ensure any conflicting activities are fully planned, coordinated and resolved.

d) Liaising with the S.O.L. HSE and Commissioning Managers to ensure conflicting activities are fully planned and coordinated.

4.8 Area Construction Managers

a) Overall control of all remaining construction activities for their respective area.
b) Authorisation of personnel as follows;
   a) Area Construction Superintendents.
   b) Electrical Superintendents.
c) Coordinating with the General Construction Manager and various planning and control sections to ensure most optimum schedule is achieved for all SIMOPS works.
d) Liaising with the S.O.L. HSE and Commissioning Managers to ensure conflicting activities are fully planned and coordinated.
4.9 Task Supervisors

The safety of SIMOPS operations is dependent to a great degree on the general communication, coordination and cooperation between the Task Supervisors, Safety Authority and Area Authorities involved.

In this respect, and in addition to the usual job preparation, Task Supervisors shall:

a) Ensure that their works have been planned and that the Area Construction Manager, SIMOPS Leader, Commissioning Area Authority and other involved supervisors have been informed of the schedule and any potential constraints and interferences.

b) Ensure the necessary permits to work are authorised and ready for display at the work site.

c) Confirm starting time and duration.

d) Confirm evaluation of potential constraints and interference.

e) Check that production operation and emergency procedures comply with SIMOPS context and to the current schedule of the planned activities.

f) Ensure that necessary equipment and personnel are available, ready to commence work to schedule and understand the nature of the SIMOPS activity.

During the SIMOPS activities, direct control of the works shall be maintained by:

a) Continuous supervision and monitoring.

b) Clear instruction, constantly updated according to progress and events.

c) Enhanced checking and testing.

d) Good communication and detailed instructions e.g. Tool Box Meetings (TBMs), method statements, Job Safety Analysis, etc.

The Task Supervisors, however, remain responsible for performing their day-to-day operations safely with all due regard for people, property and the environment.

4.10 Permit Controller

- Arranges for permit approval.
- Checks permit before issue.
- Closes permit upon completion of the SIMOPS task.
5. PROCEDURE

5.1 PLANNING and CONTROL

5.1.1 Commissioning Planning

When both construction and commissioning operations shall be undertaken at the same time on POGC Projects, then accurate evaluation and control of the operational parameters are of prime importance for SIMOPS operations, safety and efficiency.

For this purpose commissioning will maintain two sets of permanently up-dated and marked-up copies of electrical one-line diagrams identifying energized circuits and P & IDs identifying pressurized equipment, location of isolations (spades, spools, valves, etc.) one copy for commissioning use and the other copy for the SIMOPS Operations Leader (S.O.L.).

Early Production Activities
On the projects which achieve early production, the areas which shall be under SIMOPS control must be allocated

5.1.2 SIMOPS Planning and Control

Any SIMOPS activity undertaken by Construction, Commissioning and/or Production Operations shall be reviewed and scheduled to minimize any potential interference or safety impact.

Information relevant to any SIMOPS activity, which has potential impact to the other personnel working in the same area, shall be informed to all concerned personnel prior to the commencement of the planned SIMOPS activity.

SIMOPS activities for which special safety precautions shall be subject to a risk evaluation such as a Job Safety Analysis (JSA).

Urgent decisions regarding any SIMOPS shall fall under the responsibility of the General Construction Manager, the S.O.L. and the Commissioning Manager, who, through joint agreement, shall reach conclusion as to which activity takes precedence.

5.1.3 Construction Planning

The latest revision of the Master Construction Schedule (MCS) shall be referred when planning for SIMOPS activities. Every effort shall be extended to ensure conflicting activities are well planned and do not create potential impact to other works ongoing at the same time in the same area.

5.2 Area Classification:

Two types of areas are defined on projects: Construction areas and Commissioning/operation areas.

5.2.1 Construction Areas:
All construction areas fall under the responsibility of the General Construction Manager and the Area Construction Managers. These areas by nature do not have any live systems and are still under construction completion. In general no permit to work is required to work in these areas however, for certain tasks the construction permit to work procedure applies.

5.2.2 Commissioning Areas:

All areas which fall under the responsibility of the Commissioning Manager shall be deemed as Restricted Areas. Restricted areas shall be surrounded by security fencing and shall have warning signs erected. All work in restricted areas must be performed with a valid permit to work and entry is also restricted to authorised/permitted personnel.

The commissioning areas fall into two categories as follows:

a) Restricted Areas. The restricted areas shall be clearly identified at the worksite and include fencing around areas. The restricted areas contain a mix of live systems and systems that are still under construction completion. Special care shall be taken when working in these areas to ensure that the requirements of this Procedure are fulfilled.

b) Prohibited Area. A prohibited area shall be clearly identified by warning tapes and signboards.

5.3 Commissioning

The Commissioning Manager has responsibility for the planning of all commissioning works and for establishing, together with the SIMOPS Leader, the requirements of the SIMOPS activities. This shall include but not be limited to the following:

a) Planning of concurrent activities performed by different sections.

b) Ensuring that a general agreement on work organization and schedule is reached to minimize disruption.

c) Promote good and effective communication between all work parties.

5.3.1 Planning

The Commissioning Manager shall issue planning forecasts which are reviewed by respective management planning groups to identify areas of Simultaneous Operations.

When SIMOPS are identified the Commissioning Manager will advise all affected parties and the Construction and Commissioning planning schedules will be updated to incorporate SIMOPS.

The commissioning program shall incorporate all relevant information relating to SIMOPS including constraints, limitations, and areas of conflict and include or refer to applicable emergency procedures.

The S.O.L will inform all parties involved in the works, obtain acceptance for the operation plan and any identified constraints.
When conflicting operations are identified the S.O.L. will liaise with Construction and Commissioning Managers to decide which activity takes priority.

5.3.2 SIMOPS Preparation

Prior to commencing SIMOPS the General Construction Manager, Commissioning Manager and SOL will meet with all involved parties to verify the aspects of the operation, confirm emergency procedures and identify any constraints and/or limitations and conflicting activities.

Once the planning of the operation is confirmed and the detailed program and/or procedures approved, every effort shall be extended to mobilise equipment and personnel to meet and achieve the schedule.

Methods of communication shall be clearly established between all work parties during the planning of any SIMOPS activity.

5.3.3 Organisation for SIMOPS

All Site personnel, without exception, have an individual responsibility to ensure that any SIMOPS activities are carried out correctly and efficiently. The named positions in column 1 of the following Table have further specific and clearly defined responsibilities.

Not all of the named positions are POGC Job Titles, but are functional titles for the purpose of this SIMOPS Procedure. Each of the positions and their associated responsibilities are described individually in sub-section 4.1 through 4.10 of this procedure.

The blow table is arranged to show the correspondence between the POGC Functional Titles (as defined in this SIMPOS Procedure) and the duties associated with those functions.
Table 1: SIMOPS Procedure Definitions and Duties

<table>
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<tr>
<th>Procedure Definition</th>
<th>Duties</th>
<th>Responsible Person</th>
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<tr>
<td>Site Manager</td>
<td>Has overall responsibility for SIMOPS.</td>
<td>Site Manager</td>
</tr>
<tr>
<td>General Construction Manager</td>
<td>Coordinates construction activities related to SIMOPS.</td>
<td>General Construction Manager</td>
</tr>
<tr>
<td>SIMOPS Leader (S.O.L.)</td>
<td>Coordinates all SIMOPS activities between the various departments. Authorises planned work to go-ahead.</td>
<td>Assistant Commissioning Manager</td>
</tr>
<tr>
<td>Commissioning Manager</td>
<td>Coordinates all Commissioning activities relating to SIMOPS.</td>
<td>Commissioning Manager</td>
</tr>
<tr>
<td>Installation Authority</td>
<td>Defines plant status for work. Authorises commissioning work to go-ahead.</td>
<td>Area Commissioning Manager</td>
</tr>
<tr>
<td>Area Authority</td>
<td>Arranges any required isolations. Authorises work permit. Monitors working practices.</td>
<td>Commissioning Shift Supervisor</td>
</tr>
<tr>
<td>Permit Controller</td>
<td>Arranges for permit approval. Checks permit before issue. Closes permit upon completion of the SIMOPS task.</td>
<td>Permit Controller</td>
</tr>
<tr>
<td>Safety Authority</td>
<td>Defines safety requirements. Provides Risk Assessment. Monitors working practices.</td>
<td>Area HSE Manager/SI</td>
</tr>
<tr>
<td>Task Supervisor</td>
<td>Initiates permits. Defines scope of work. Ensures that all persons working under his control conform to PTW conditions. Ensures the task is completed to schedule.</td>
<td>Person responsible for the work</td>
</tr>
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5.4 Meetings

5.4.1 Regular SIMOPS meetings shall be held and are required to:

a) Ensure the highest standards of safety awareness for all personnel.

b) Ensure proper communication, cooperation and coordination is maintained between the different teams working on the SIMOPS.

c) Ensure proper planning and progress of SIMOPS activities to minimize unproductive downtimes.
d) Ensure strict application of the Site HSE Plan and Commissioning Permit to Work Procedure.

5.4.2 Prior to start-up of SIMOPS activities all a kick-off meeting shall be convened by the Commissioning Manager, General Construction Manager, SIMOPS Leader and supervision undertaking the SIMOPS works to ensure that all precautions have been implemented and equipment is available to carry out the intended task to the planned schedule.

5.4.3 In addition to usual topics and tasks, the kick-off meeting is the opportunity for supervisory personnel to:
   a) Review and confirm planning of future concurrent activities, according to the actual progress of running operations and to identify potential conflicts.
   b) Authorize work to be performed under the permit to work system highlighting SIMOPS events and address safety concerns.

5.4.4 Tool Box Talks shall be held on daily basis and shall include current SIMOPS topics in their agenda. Specific emphasis will be given to the SIMOPS having potential impact on commissioning and production activities and methods of raising the alarm in the event of an emergency. Toolbox meetings shall also address the Job Safety Analysis and necessary escape routes, location of safety equipment and muster points.

5.5 Work Permits

The Work Permit Procedure (Doc. No.: MA-64-POGC-001) is applicable for all SIMOPS works on POGC projects. The mentioned Work Permit Procedure shall be utilised for all activities performed on commissioning period up to operation.

5.6 Job Safety Analysis (J.S.A.)

The objective of a Job Safety Analysis (J.S.A.) is to systematically review high risk or frequently performed tasks to identify and mitigate safety hazards before the tasks commence. The objective of the JSA is to analyze potential hazards associated with a specific task.

The JSA is a behavior tool used to identify and minimize risk associated with routine, non-routine and high risk job tasks.

Job Safety Analysis is a structured approach for identifying potential hazards in a job and devising corrective steps. Since it considers actions (behaviors) as well as physical and environmental conditions, it is a good way to increase safety awareness and achieve sustainable improvements in safety performance.

The extent of the SIMOPS works shall be evaluated using this method of hazard identification and as a minimum the JSA shall address the following;
a) Identification of the work area, including plot plans, P&ID, isometric drawings etc. and a method statement for the work execution.
b) Review of the key steps of the work.
c) Hazard identification.
d) Permit to Work requirements.
e) Lock out and tag out requirements.
f) Crane operation requirements.
g) Tools and equipments.
h) PPE and any additional requirements for fall protection, special protective clothing, etc.
i) Toolbox Meetings.
j) Emergency response preparations
k) Material handling and waste management plan (as required).
l) Housekeeping.

The results of the JSA study will be incorporated into the work schedule and shall be endorsed by the SIMOPS Leader, prior to commencing the SIMOPS activities. See Appendix 1 of this Procedure for example of JSA checklist.

5.7 Near Miss and Incident Reporting
Near miss and incident reporting for any SIMOPS activity shall be in accordance with the Incident & Accident Reporting Procedure, Doc. No. PR-74-POGC-001. A formal report shall be issued for each and every near miss and/or incident relating to any SIMOPS activity.

5.8 Check-lists
The preparation of the SIMOPS activities as far as organization, equipment, material and procedures are concerned, shall be shared between construction and commissioning organizations. To assist these organizations in preparing for predetermined start-up phases, the following checklist will be used prior at each step of the works and responsibilities allocated to the disciplines and supervisors in charge. See Appendix 3 of this Procedure for SIMOPS checklists. This checklist is filling by Safety Authorities and Approved by SIMOPS Leader (S.O.L.). After Approved this document is reviewed by Commissioning Manager for closing.

5.9 Plant and Equipment
Subject to the requirements defined in the developed checklists all plant and equipment (existing and new purchase) shall conform to hazardous area classification, other plant and equipment will be subject to and controlled by the Permit to Work System.
Examples may include but are not limited to:
a) Vehicles.
b) Electrical equipment and portable electrical hand tools.
c) Power tools.
d) IS communication system.
e) Lifting equipment.
f) Hand tools.

All plant and equipment for use within the SIMOPS areas (i.e. live) will be subject to pre inspection and colour coding to signify inspection has been completed. Personal protective equipment and escape equipment shall be suitable for use within a sour (H₂S) service environment (refer to Doc. No. PR-90-POGC-002).

5.10 Personnel Control

All areas under simultaneous operations shall be restricted to unauthorised access by personnel not involved in the operation. The following measures shall be put in place to control entry into these areas.

5.10.1 Entry into Restricted Areas

Access to restricted areas will be controlled by badges, manned security points and the permit to work system. Construction personnel shall not be allowed access into any restricted area without a valid permit to work and exchanging their gate pass at the security gate control.

5.11 Alarms and Communication

A full time safety supervisor shall be stationed in each of the restricted areas and shall maintain communication between the construction and commissioning personnel. Emergency alarms shall be activated in each of the restricted areas.

5.12 Emergency Response

All emergency evacuations shall be carried out in accordance with the Emergency Response Procedure.
Whenever mustering of personnel is required, all construction and commissioning production personnel shall muster outside of the restricted areas.
Once sour gas must be introduced into the site, all personnel working in hazardous areas shall be provided with H₂S escape masks and H₂S portable detector.

5.13 Lifting and Rigging Operations

Prior to entry into a SIMOPS area, all cranes and rigging equipment shall be inspected and confirmed as fit for purpose.
All lifting operations over live equipment shall be subjected to a risk assessment, which shall be approved by Main Contractor Heavy Lifting Supervisor. Risk Assessments shall include as a minimum the following information:
a) Plot Plan showing crane location with respect to intended lift and centre of Gravity of the load.
b) Boom Length.
c) Boom Angle.
d) Crane Radius.
e) Crane Capacity.
f) Maximum Load.
g) Block Weight.
h) Rigging Weight.
i) Total Weight.
j) Percentage of crane capacity.
k) Counter Weight (as applicable).

In all instances the crane manufacturer’s specifications and limitations shall be taken into account when planning any lift over live plant. The crane operator shall be qualified and be in possession of a valid crane operator’s licence. He shall be familiar with the type of crane being operated and shall be tested for competency. A competent rigging supervisor who has been properly trained in rigging and lifting practices shall be present at the work face at all times during the lifting activities.

5.14 Additional Support Groups

The following supporting groups are available at site on twenty-four hours basis and shall fully support any SIMOPS activity as required.

- **Fire and Rescue Team**
  As required, the fire and rescue team shall be called out to stand-by during SIMOPS works and shall fully support the commissioning and construction personnel during any SIMOPS activity.
  Fire and rescue facilities shall be established in designated fire station. The fire and rescue department shall be on station 24-hours each day 7-days each week.
  The fire and rescue department shall be staffed by adequate and qualified members as fire chief, fire officers, fire tender drivers, fire man; warehouse keeper and helpers (refer to fire prevention procedure; Doc. No. PR-73-POGC-001)
  In the event of an emergency, the fire and rescue team shall take immediate action to secure the area and commence preparations for control of the situation. As necessary, the fire fighting teams from the adjacent refineries may be called to assist with control of the situation.

- **Site Clinic**
  The site clinic shall be staffed on twenty four hours basis. The clinic shall be manned with Doctors, nurses, paramedics and ambulance drivers.
Adequate ambulances shall be available on site. The vehicles must be fully equipped with emergency response equipment and shall fully support the fire and rescue teams, as required.

- **Project Guard**

All Site security shall be carried out in accordance with the Site Security Plan. The Project Guard is responsible for maintaining security of the restricted areas and the Guard shall check all personnel entering into a restricted area for the following:

a) All personnel are in possession of an authorised work permit prior to entry into a restricted area.

b) Shall check all workers upon entry and exit from the restricted area for unauthorised removal of tools, materials and equipment.

c) All personnel exchange their gate pass for restricted area pass upon entry into the restricted area.

d) No hand phones are carried into the restricted area.

e) No cameras are carried into the restricted area.

f) All walkie-talkies used within the restricted area are intrinsically safe.

g) No smoking rule is enforced within the restricted area.

The restricted (fenced) areas shall be manned with a Project Guard on twenty-four hours basis.

5. **REFERENCES**

- NEBOSH (National Occupational Health & Safety) Regulation
- N.I.O.C (National Iranian Oil Company)

6. **APPENDIXES**

   - Appendix1 - JSA Hazard Checklist
   - Appendix 2 - SIMOPS Responsibilities
   - Appendix 3 - SIMOPS Checklist
## Appendix 1 - JSA Hazard Checklist

### Potential Hazards

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<td>Work at Height</td>
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### Hazard Controls and Emergency/Contingency Plans

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<tr>
<td>Ignition Source Controls</td>
<td>Eyewash/Safety Shower Location</td>
</tr>
<tr>
<td>Lock Out Tag Out</td>
<td>Material Safety Data Sheets</td>
</tr>
<tr>
<td>Required Work Permits</td>
<td>Simultaneous Operations</td>
</tr>
<tr>
<td>Fall Protection/Open Hole Policy</td>
<td>Hot Bolting Policy</td>
</tr>
<tr>
<td>Other - Describe</td>
<td></td>
</tr>
</tbody>
</table>

### Safety Equipment Required

<table>
<thead>
<tr>
<th>Hard Hats</th>
<th>Work Vest/Life Jacket</th>
<th>Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Shoes</td>
<td>Full Body Harness</td>
<td>Fire Extinguisher</td>
</tr>
<tr>
<td>Safety Glasses</td>
<td>Life Lines</td>
<td>Fire Retardant Tarps</td>
</tr>
<tr>
<td>Face Shield</td>
<td>Safety Barricade</td>
<td>Lock Out Tag Out</td>
</tr>
<tr>
<td>Goggles</td>
<td>Rubber/Chemical Gloves, Apron</td>
<td>Gas Detector</td>
</tr>
<tr>
<td>Cotton Gloves</td>
<td>Work Permit</td>
<td>Hearing Protection</td>
</tr>
<tr>
<td>Leather Gloves</td>
<td>Proper Tools</td>
<td>Caution Tape</td>
</tr>
</tbody>
</table>
## Appendix 2 - SIMOPS Responsibilities

<table>
<thead>
<tr>
<th>General Construction Manager</th>
<th>Area Construction Manager</th>
<th>SIMOPS Leader</th>
<th>Commissioning Manager</th>
<th>Installation Authority</th>
<th>Area Authority</th>
<th>HSE Manager</th>
<th>Task Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrange SIMOPS Meeting</td>
<td></td>
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<tr>
<td>Review SIMOPS activity and agree priorities, interfaces, etc.</td>
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<tr>
<td>Check Method Statement is prepared and approved.</td>
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<tr>
<td>Check Job Safety Analysis is prepared and approved.</td>
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<tr>
<td>Convey HSE expectations to subcontractors.</td>
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<tr>
<td>Confirm Work Permit is applied for and approved.</td>
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<tr>
<td>Check all tools and equipment is ready.</td>
<td></td>
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<tr>
<td>Check rigging and electrical tools are inspected.</td>
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<tr>
<td>Check toolbox meeting held.</td>
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<tr>
<td>Check fire and rescue team is notified.</td>
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<tr>
<td>Ensure subcontractors are familiar with incident reporting procedures.</td>
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<tr>
<td>Ensure on-site construction and safety monitoring occurs.</td>
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<tr>
<td>Arrange training, as required.</td>
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<tr>
<td>Close Permit to Work.</td>
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</tbody>
</table>
## Appendix 3 - SIMOPS Checklist

<table>
<thead>
<tr>
<th>Person in Charge:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcontractor:</td>
<td>Unit:</td>
</tr>
<tr>
<td>Activity:</td>
<td>Date:</td>
</tr>
<tr>
<td>Construction:</td>
<td></td>
</tr>
<tr>
<td>Commissioning:</td>
<td></td>
</tr>
<tr>
<td>Production:</td>
<td></td>
</tr>
</tbody>
</table>

### SIMOPS Checklist

<table>
<thead>
<tr>
<th>SIMOPS Checklist</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>If No, Explain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
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</tr>
<tr>
<td>1. Has person-in-charge been assigned for the SIMOPS?</td>
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<tr>
<td>2. Has supervisory cover been provided?</td>
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<tr>
<td>3. Has SIMOPS work plan been developed?</td>
<td></td>
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<tr>
<td>4. Is copy of permit available?</td>
<td></td>
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<tr>
<td>5. Have all persons involved in the SIMOPS been instructed in:</td>
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<tr>
<td>5a. SIMOPS procedures</td>
<td></td>
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<tr>
<td>5b. Emergency procedures and alarms.</td>
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<tr>
<td>5c. Muster Point Locations.</td>
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<tr>
<td>5d. Fighting equipment and locations?</td>
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<tr>
<td>6. Is good housekeeping practiced?</td>
<td></td>
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<tr>
<td>7. Is smoking restricted to designated areas?</td>
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<tr>
<td>8. Has electrical equipment been suitable grounded and inspected?</td>
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<tr>
<td>9. Have all personnel working in the restricted area registered at the security gate?</td>
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<tr>
<td>10. Are personnel at risk from H&lt;sub&gt;2&lt;/sub&gt;S?</td>
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<tr>
<td>11. Are personnel issued with an H&lt;sub&gt;2&lt;/sub&gt;S escape mask?</td>
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<tr>
<td>12. Are welding works required?</td>
<td></td>
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<tr>
<td>13. Are all non-essential personnel removed from the SIMOPS area?</td>
<td></td>
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</tr>
<tr>
<td>SIMOPS Checklist</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
<td>If No, Explain</td>
</tr>
<tr>
<td>------------------</td>
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</tr>
<tr>
<td><strong>Gas Checking</strong></td>
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<tr>
<td>1.</td>
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<tr>
<td>Are gas detectors calibrated and tested?</td>
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<tr>
<td>2.</td>
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<tr>
<td>Do gas detectors initiate and audible alarm when LEL is detected?</td>
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<tr>
<td>3.</td>
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<tr>
<td>Is gas tested authorised for this activity?</td>
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<tr>
<td><strong>Safety</strong></td>
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</tr>
<tr>
<td>1.</td>
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<tr>
<td>Is adequate PPE being worn?</td>
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<tr>
<td>2.</td>
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<tr>
<td>Is fire watch / stand-by man assigned?</td>
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<tr>
<td>3.</td>
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<tr>
<td>Are a fire hose and/or fire extinguisher available?</td>
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<td>4.</td>
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<tr>
<td>Barriers and warning signs erected?</td>
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<tr>
<td>5.</td>
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<tr>
<td>Are gas checks completed and recorded?</td>
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<tr>
<td>6.</td>
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<tr>
<td>Is MSDS available?</td>
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<tr>
<td>7.</td>
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<tr>
<td>Has emergency response team been informed?</td>
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<td>8.</td>
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<tr>
<td>Is radiography required?</td>
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<tr>
<td>9.</td>
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<tr>
<td>Are confined space procedures being followed?</td>
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<td>10.</td>
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<tr>
<td>Are gas detectors and/or ESD systems inhibited?</td>
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<td>11.</td>
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<tr>
<td>Are all sparks being contained?</td>
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<td>14.</td>
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<tr>
<td>Has JSA been developed?</td>
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<tr>
<td><strong>Construction Work – Naked Flame Works</strong></td>
<td></td>
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<tr>
<td>1.</td>
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<tr>
<td>Are daily toolbox meetings held?</td>
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<tr>
<td>2.</td>
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<tr>
<td>Is work permit authorised and available?</td>
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<td>3.</td>
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<tr>
<td>Are conditions of the permit being followed?</td>
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<td>4.</td>
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<tr>
<td>Are suitable flame retardant materials being used to contain sparks?</td>
<td></td>
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<tr>
<td>5.</td>
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</tr>
<tr>
<td>Have all necessary isolations been completed?</td>
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<tr>
<td>6.</td>
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<tr>
<td>Are welding machines inspected and positioned in suitable location?</td>
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<td>7.</td>
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<tr>
<td>Are welding cables insulated and in good condition?</td>
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<td>8.</td>
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<tr>
<td>Are compressed gas cylinders secured, fitted with flame arrestors and free from grease and oil?</td>
<td></td>
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<tr>
<td><strong>Construction Works – Rigging and Lifting</strong></td>
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</tr>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>Are rigging and lifting personnel qualified and competent?</td>
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<td>2.</td>
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<tr>
<td>Has risk assessment been undertaken and addressed with all personnel?</td>
<td></td>
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</tr>
<tr>
<td>SIMOPS Checklist</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
<td>If No, Explain</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
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<tr>
<td>3. Are the crane, shackles and slings visually inspected prior to the start of lifting operations?</td>
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<tr>
<td>4. Is the rigging and lifting equipment colour coded?</td>
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<tr>
<td>5. Is the crane operation qualified?</td>
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<tr>
<td>6. Are crane inspection records available?</td>
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<tr>
<td>7. Is rigging supervisor clearly identified by wearing a green work vest?</td>
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</tbody>
</table>

**Construction Works – Blasting and Painting**

1. Has toolbox meeting been held?                                              
2. Are paints and thinners stored in safe location?                           
3. Have critical lines and vessels been identified, checked and determined as safe to blast? 
4. Is surrounding area sufficiently protected from blast materials and pain overspray? 

**Commissioning Works**

1. Is all equipment depressurised and/or isolated?                             
2. Is equipment purged of gas and/or vapour?                                   
3. Is electrical and/or mechanical equipment locked-out and tagged?          
4. Are open drains and culverts covered?                                       
5. Are all necessary permits to work authorised?                               
6. Are electrical isolations recorded?                                         
7. Are process/mechanical isolations recorded?                                 
8. Is commissioning Supervisor assigned?                                       

Signed:  ......................................................  
Date:    ......................................................
MANAGER, HSE Department  
I.R. IranPars Oil & Gas Company  
Tehran I.R. Iran

Please consider the following suggestion(s) relative to the $POGC$ SIMOPS Safety procedure:

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_____________________________________________________________________________________________

(Signature)

(Date)  

(Address)  

Contact Telephone Number

Contact FAX Number