

Submission to EPA Guyana

Public Notice for Intent to Conduct Business Operations

Nalco Champion Guyana

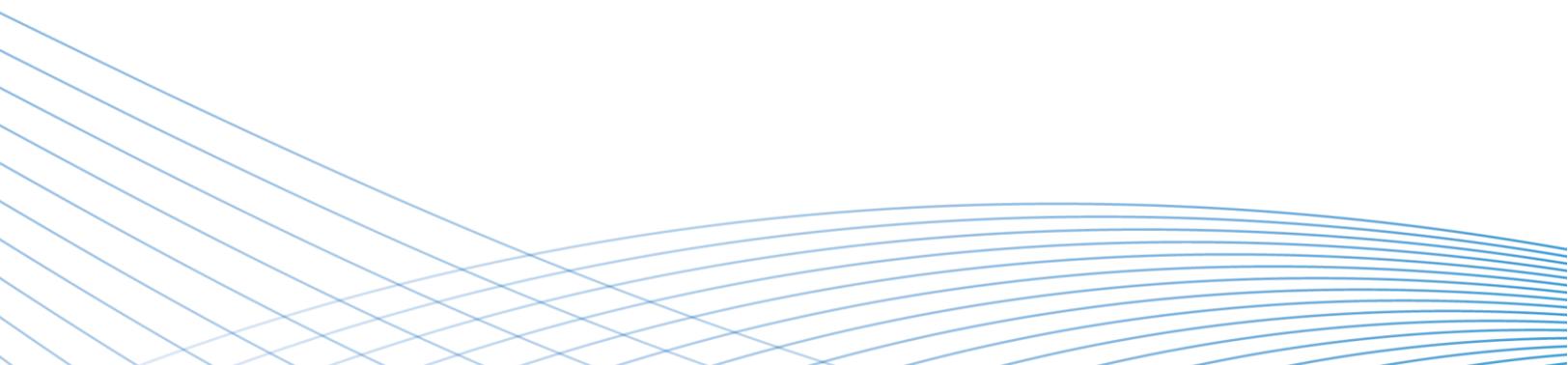
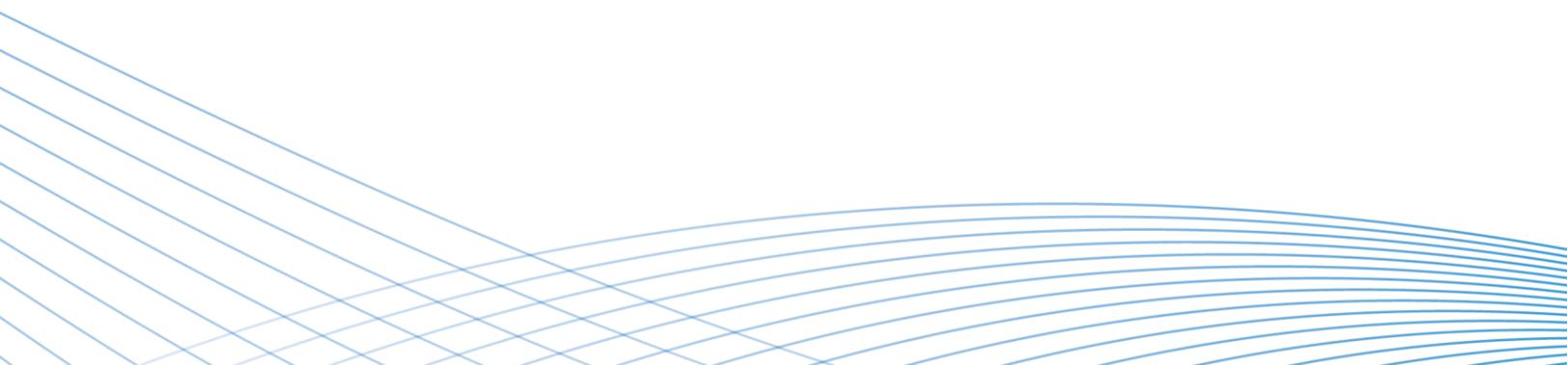


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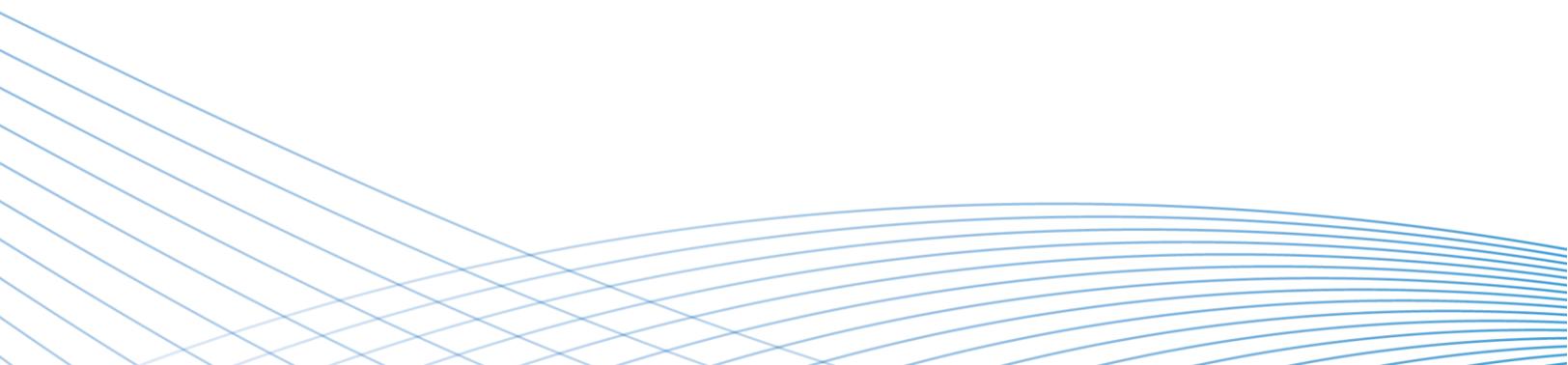
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Section I

Public Notice

Company Information and Base Design

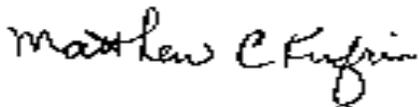


**Environmental Division of the Environmental Protection Agency
Ganges Street, Sophia
Georgetown, Guyana**

Subject: Nalco Champion Environmental Management Plan

Please find NALCO Champion's Environmental Management Plan for review, handling and comment.

Let us know if you have any question or require additional information.



Matthew C Kufirin

ES Strategic PMO Manager

NALCO Champion Guyana | An Ecolab Company

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Eric J. Scott

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John Fernandes Inland Terminal, 4055 Mandela Avenue, Ruimveldt, Georgetown, Guyana

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Nalco Champion Overview

Nalco Champion, an Ecolab company, offers a singular focus on providing specialty chemistry programs and related services for upstream, midstream, and downstream oil and gas operations. Through onsite problem solving and the application of innovative technologies, we deliver sustainable solutions to our customers' complex energy challenges.

Profile

Nalco Energy Services and Champion Technologies merged businesses in April 2013, creating a new market leader. Together, we have expanded our technology, services, innovation capability, resources, and infrastructure to benefit our customers. Our applications and services improve oil and gas recovery and production, extend valuable equipment life, and decrease operating complexity and costs.

Nalco Champion has more than 8,000 employees stationed in over 170 countries. With over 4,000 sales and service personnel delivering superior customer service and innovation solutions around the globe, we are solving problems every day for many of the world's leading oil and gas producers.

Our workforce includes over 450 research and technical service personnel stationed at our technology centers around the globe. These chemists, engineers, lab technicians, and project managers work closely with our local technical services and analytical teams to develop solutions for the production challenges facing our customers.

Safety: Our Highest Priority

The health of people and protecting the environment are our highest priorities. Working to exceed the standards of national and local environmental regulations, we are always refining our safety processes and programs, identifying opportunities for improvement, and providing employees with the information and resources they need to make changes. Nothing is more important than making sure people go home safely.

Energy Services

As Ecolab's Energy Services division, Nalco Champion represents 28 percent of Ecolab's business portfolio. Being one of Ecolab's largest business units in terms of revenue, Nalco Champion has the intellectual, economic, and logistical strength to overcome the most complex challenges in the world's toughest energy frontiers.

About Ecolab

A trusted partner at more than one million customer locations, Ecolab (ECL) is the global leader in water, hygiene and energy technologies and services that protect people and vital resources. With 2016 sales of \$13 billion and 48,000 associates, Ecolab delivers comprehensive solutions and on-site service to

Fast Facts

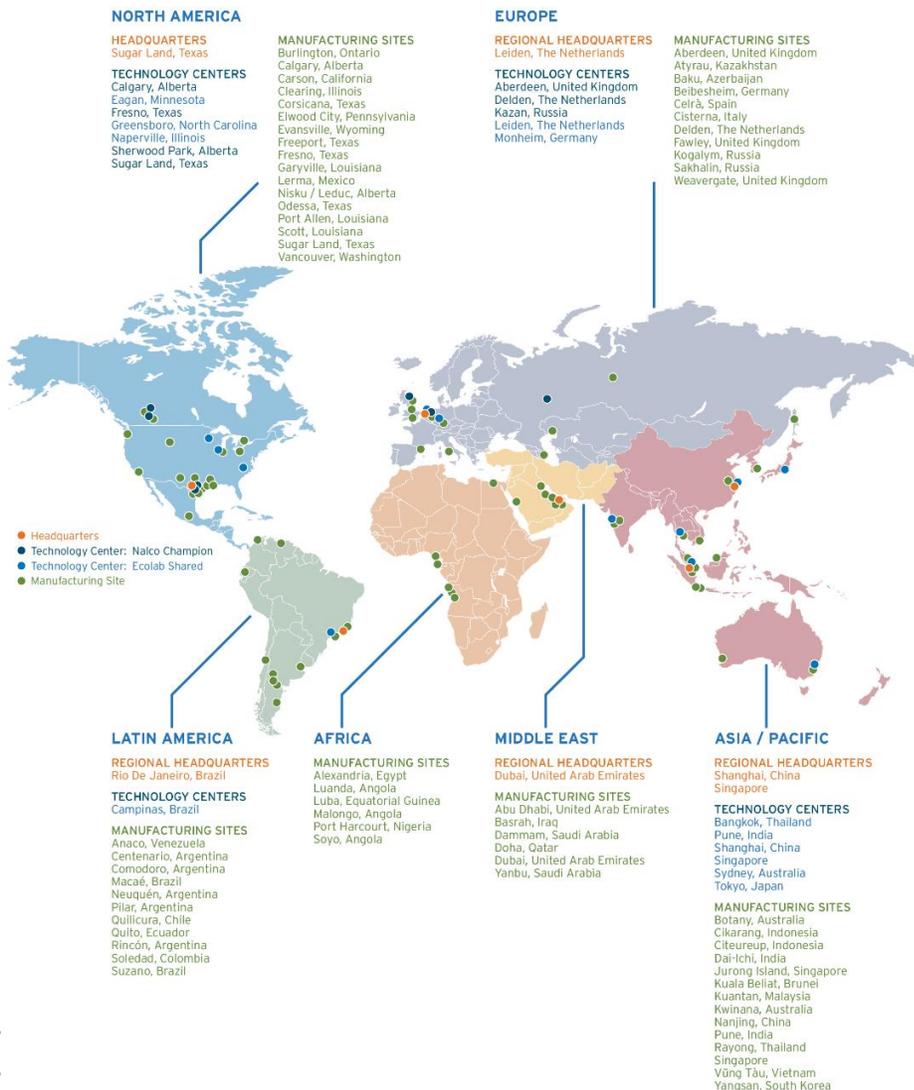
- 8,000+ employees globally
- 4,000+ sales / service personnel
- 450+ technology specialists
- Operations in 170 +countries
- 65 manufacturing facilities

promote safe food, maintain clean environments, optimize water and energy use and improve operational efficiencies for customers in the food, healthcare, energy, hospitality and industrial markets in more than 170 countries around the world. For more Ecolab news and information, visit www.ecolab.com

Global Presence

Nalco Champion has offices, labs, and manufacturing facilities embedded across the globe.

Figure 1. Nalco Champion Global Facilities and Resources



Global Safety, Health & Environmental Policy

Nalco Champion is committed to providing the resources, processes, facilities, standards, training, discipline and work culture to provide a safe and healthy environment. Please reference Appendix IV for Nalco Champions Global Safety, Health and Environmental Policy.

Life of the Project

NALCO Champion plans to be in Guyana for the life of oil production. With that said we are bidding on new business with SBM/Exxon Mobil. We will know life of the project after receipt of SBM' request for pricing document. However, we expect the document to mirror other requests for pricing and expect that the duration of the first contract will be 5 years with 2 one-year extensions. From a short-term perspective minimum time will be 7 years and on a long-term basis 30+ years or as long there is oil production in Guyana.

Total Land Area of Site

NALCO Champion does not intend to purchase land for the short term. It is NALCO Champion's intent to work with John Fernandes Ltd to build a facility meeting NALCO Champion construction standard on land owned by John Fernandes LTD. John Fernandes LTD would then lease the property back to NALCO Champion. NALCO Champion would operate the facility. John Fernandes owns many acres of land in the area. Appendix III shows the proposed site layout and construction specifications. NALCO Champion's planned facility would occupy 5,000 sq. meters with the intent to extend the facility to 20,000 square meters as oil production expands in Guyana.

The structures on the property consists of the following:

- Modular work buildings
 - Laboratory
 - Office
 - Change/Shower/Bathroom for facility workers
 - Mechanical equipment/parts storage
- 1,000 square meters concreted and contained area.
 - Chemical transfer area designed to prevent accidental release of chemicals to the environment.

- Storage area for sealed but partially full containers
 - Packaging area for transfer from IBC, iso, drum to off-shore tank designed to prevent accidental release of chemicals to the environment
- 4,000 square meters stabilized soil
 - Chemical storage for sealed/unopened iso tanks, 1,000-liter plastic ibc, drums and pails, offshore tanks, frames
- 15,000 square meters – undeveloped and ear marked for future expansion.

Reference Appendix II for a proposed site layout. Construction on the site would start in September 2018, pending award of business to NALCO Champion. John Fernandes, LTD would apply for all construction and environmental permits required to build the facility. NALCO Champion would apply for environmental permits to operate the site. We expect construction to take 6 months with completion targeted for April 2019. The facility will be constructed to meet NALCO Champion requirements for warehouse and chemical transfer operations as well as to meet building codes as stipulated in Guyana regulations. Reference Exhibit I for a general layout of the facility.

NALCO Champion will not operate the site while it is under construction. Once construction is complete, NALCO Champion will maintain work hours of 7AM to 7PM Monday through Friday. If necessary, the warehouse staff will remain on call over the weekend to handle emergency customer orders.

NALCO Champion operates similar facilities in West Africa and the design has proved to be robust in design, preventing release of chemicals to the environment. The facility is designed to capture rain water for analysis (appearance, density and PH) for chemical contamination before release to the environment. If the rain water does not pass inspection it will be pumped into 1,000-liter plastic IBC's and shipped to Tiger Offshore in Georgetown Guyana for treatment. Solid waste such as trash and used absorbent pads will be collected in a waste skip and sent to Tiger off-shore for disposal.

John Fernandes owns the land and will build the facility. John Fernandes will apply for all applicable permits required to develop the site. Nalco Champion will apply for an environmental license for the activities related to storage, chemical handling and delivery with Guyana. In addition, Nalco Champion, in compliance with laws of Guyana, will apply for import licenses for chemicals defined by and under the jurisdiction of the Pesticides and Toxic Chemicals Control Board, provision for importation of Toxic Chemical.

Environmental Management Plan Standards:

NALCO Chemical plant operate to ISO 14000:2015 standards. A global integrated management system has been implemented to meet ISO standards. A copy of this document is attached in Appendix III. Double click on the embedded object to open the IMS manual and documents related to each of the NALCO Champion IMC Elements. Once operations start up in Georgetown Guyana all procedures, risk assessments, job Safety Analysis' will be designed to support compliance with Nalco Champion Global IMS program. This manual describes the Nalco Champion Global Integrated Management System (IMS) which helps Nalco Champion Businesses meet its vision and values.

It details the principles, policies, and the 14 Elements, which make up the Global IMS suite of documents to provide a process approach for managing safety, health, environmental, quality and security at all Nalco Champion locations in a unified and proactive fashion.

Why is it important?

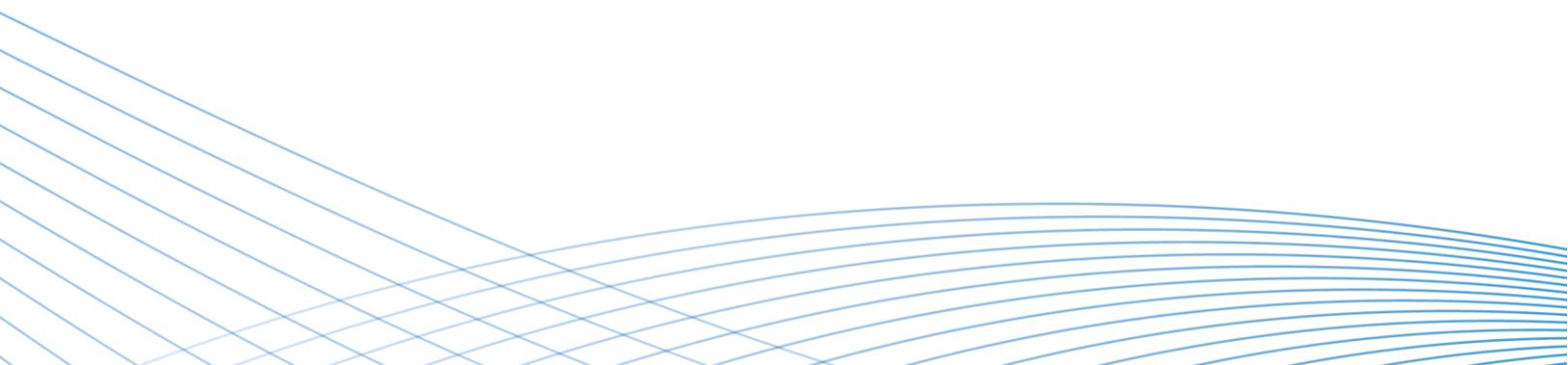
The Nalco Champion Global IMS describes how the Nalco Champion does business effectively and efficiently while protecting health, safety and the environment. It provides the means for making sure that the systems, processes, products and resources are available and in place to realize Nalco Champion vision and values.

This Global IMS helps Nalco Champion Businesses to:

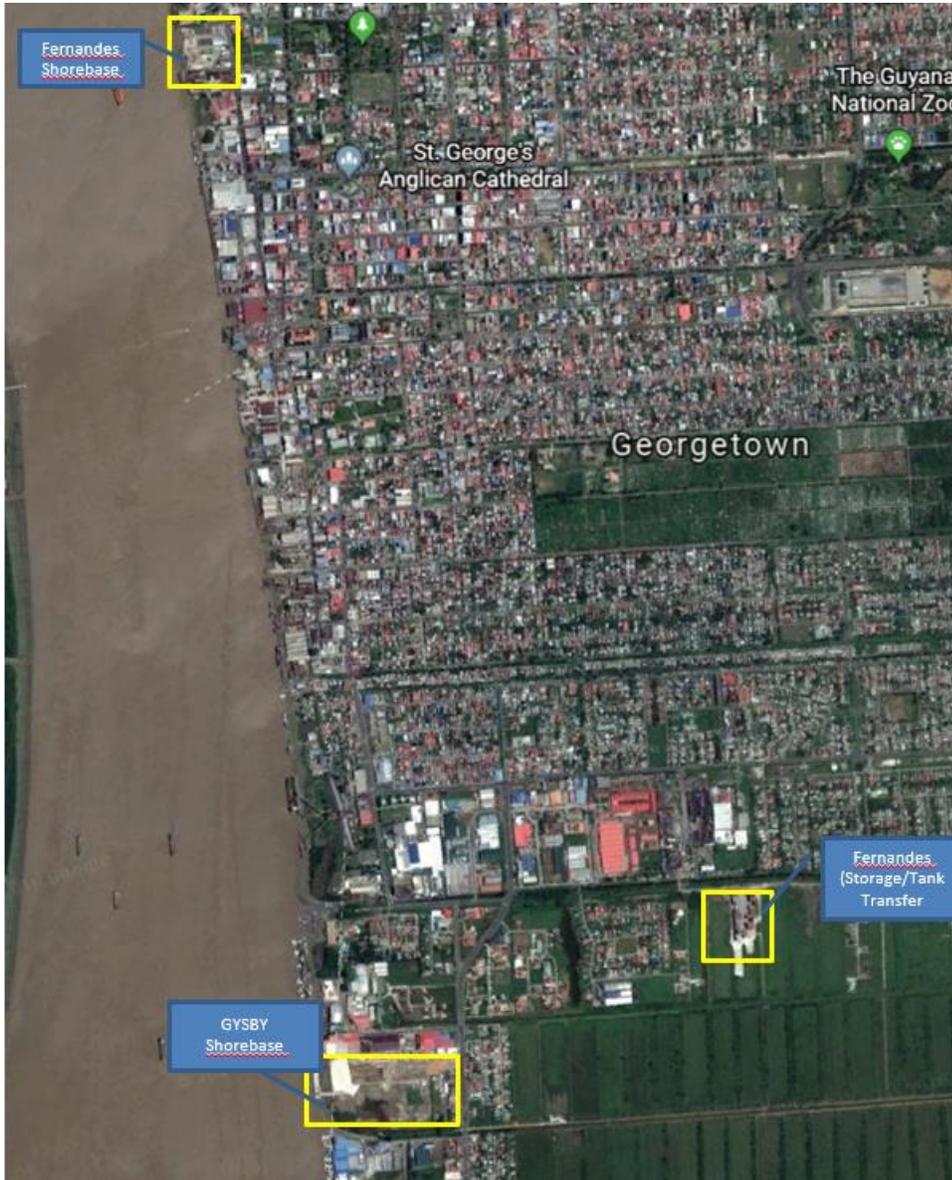
- Implement processes to achieve policy commitments and take the required action to address risks and improve performance.
- Demonstrate ongoing conformance to Nalco Champion core values.
- Commit to a productive, safe and healthy working environment for all personnel and contractors and instills a safety culture that protects everyone involved in our business.
- Enable effective risk management of our operations so we can protect our personnel, contractors, customers and communities.
- Encourage proactive environmental efforts by preventing waste and pollution at the source and supporting work that is socially responsible.
- Assure conformity of goods and services provided and customer satisfaction by anticipating their needs through the provision of superior service and added value while never compromising safety or protection of the environment.
- Conform to internal and Customer requirements, and voluntary obligations.

- Meet industry and international standards in the areas of Health and Safety (OHSAS 18001), Environmental (ISO 14001), Quality (ISO 9001) and in some areas, Responsible Care (RC 14001).

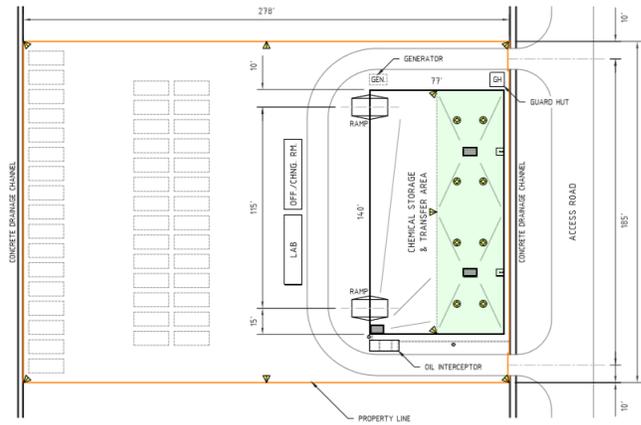
The Global IMS is designed to drive improvement and risk management through a 'Plan-Do-Check-Act' process approach and methodology across Nalco Champion business.



Appendix I: John Fernandes Inland Container yard location for proposed NALCO Champion Storage/Tank Transfer facility



Appendix II (NALCO Champion Proposed Base Layout with construction recommendations).



- LEGEND**
- INDICATES COVERED AREA
 - LIGHT - DOWN
 - ◀ LIGHT - SPOT
 - SAFETY SHOWER
 - SLUMP

PROPOSED LAYOUT OF NALCO LOT
2019-02-27

John Fernandes Ltd.
24 Water Street
Georgetown, Guyana
227-3363

PROJECT TITLE:
**JFL HSF -
NALCO LOT**

DRAWING TITLE:
**PROPOSED LAYOUT
2019/02/27**

SCALE: 1" = 50'

DATE: 2019/02/27

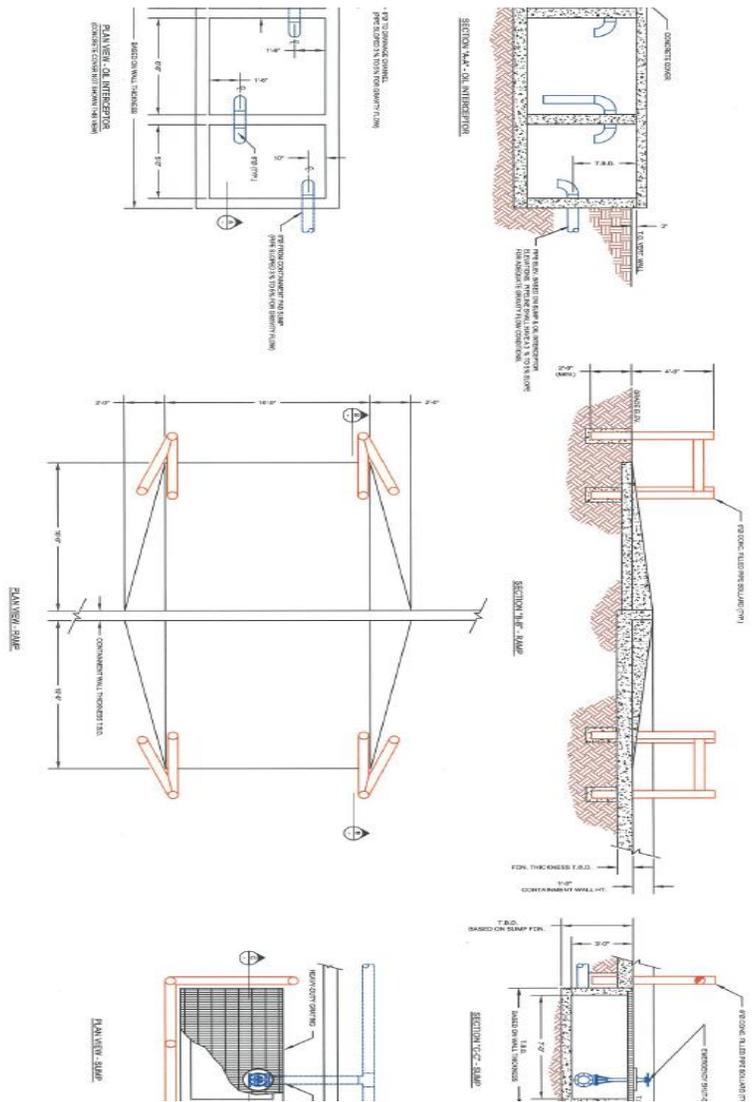
DRAWN BY: JDG

NOTES:
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SHEET SIZE: LEGAL

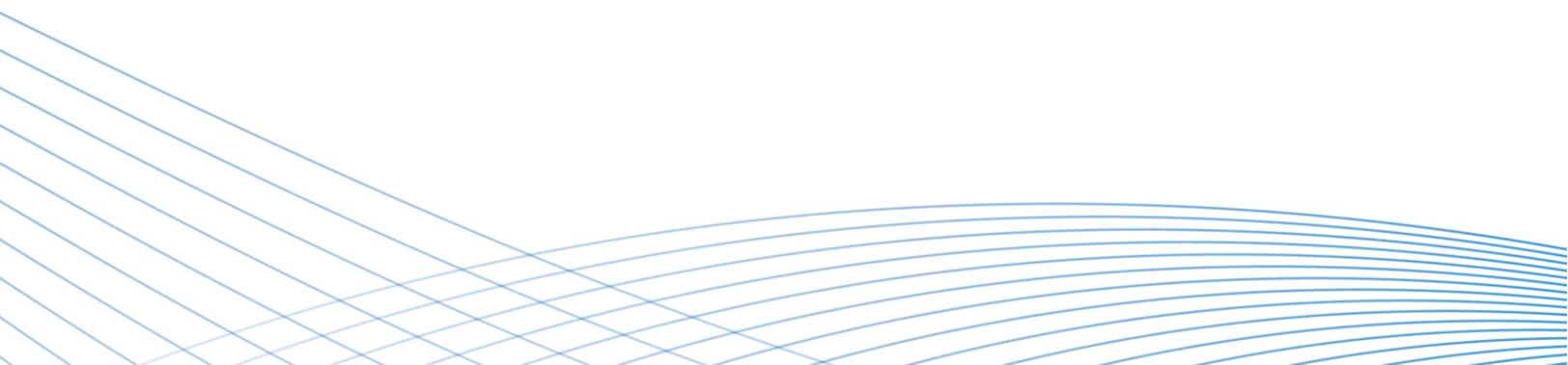
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Oil Water Separator Design





Nalco Champion IMS
Final Jan 15 Word.zip



Appendix IV: Global Safety, Health & Environmental Policy

NALCO Champion

An Ecolab Company

GOALZERO

GLOBAL SAFETY, HEALTH & ENVIRONMENTAL POLICY

All levels of management at Nalco Champion are committed to providing the resources, processes, facilities, standards, training, discipline and work culture to:

- Manage our global operations with care for the health, safety and prosperity of our employees, contractors, customers, communities and the environment
- Strive for a goal of zero injuries or occupational illnesses and zero environmental and process safety incidents with the belief that all of these are preventable.
- Promote stewardship of natural resources, the environment and pollution prevention.
- Support society's need for increased energy through sustainable sources, products and technologies and efficient processes.
- Provide for the security of our people, property, information, reputation and brand.

To meet our commitment, we will:

- Meet or exceed all applicable laws, regulations and voluntary obligations and apply responsible standards where they do not exist.
- Manage and mitigate risk to a level that is as low as reasonably practical.
- Ensure that managers and supervisors demonstrate visible and active leadership to engage employees to effectively manage safety, security, health and environmental performance.
- Challenge the concept of waste through innovative and efficient use of resources, minimizing emissions to air, water and land.
- Empower our employees with stop work authority when safety, security or regulatory compliance is believed to be compromised.
- Communicate to all employees and contractors that each person is responsible for their own safety and the safety of those around them.
- Provide effective and appropriate information, training, coaching, supervision and assessment of competence for all employees and contractors.
- Continuously improve performance and outcomes through auditable systems, effective consultation and open communications with our customers, employees, sub-contractors and stakeholders.
- Promote healthy living through wellness programs and initiatives.



Steve Taylor
Executive Vice President and President, Nalco Champion

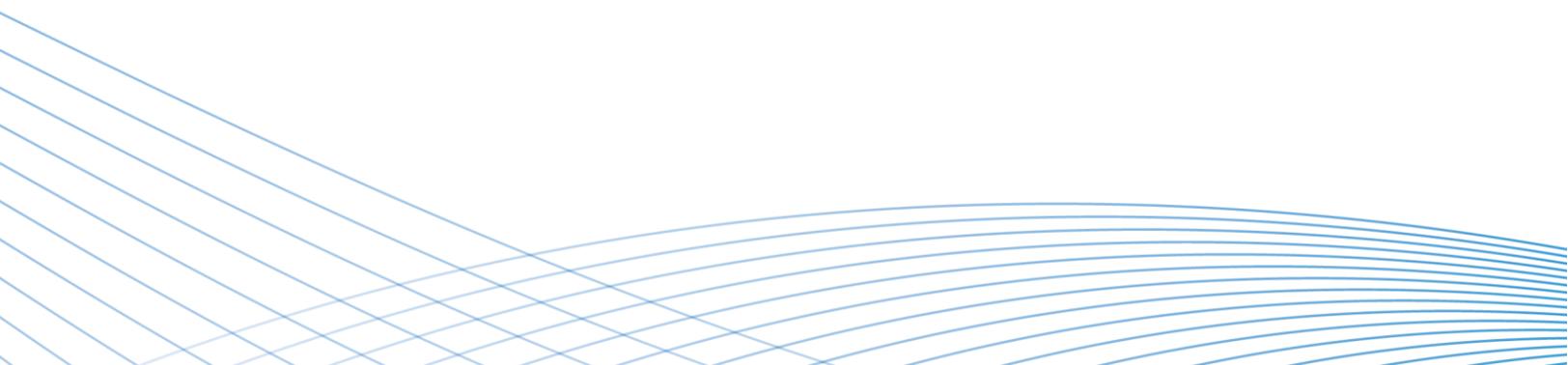
Effective date: Dec. 1, 2013



Section II

Summary Warehouse Management Plan

**John Fernandes Inland Yard
4055 Mandela Avenue**



1.0 Purpose and Scope of Plan

The warehouse management plan summary for the NALCO Champion Georgetown Guyana Distribution Center addresses site storage and safety management processes.

The plan provides guidance our company policies to enable adequate control, resolution, and prevention of adverse situations. This plan assigns responsibilities and provides guidance to site personnel. It is not the intent of the summary to eliminate or reduce the responsibility of those engaged in the operation or maintenance of the plant.

This plan does not attempt to cover every possible detail but provides general guidelines for warehouse management.

2.0 General Facility Information

2.1 Facility Name and Location

Physical Address:

NALCO Champion, Georgetown Guyana Distribution Center located at 4055 Mandela Avenue, Rumvieldt inside the John Fernandes Inland Terminal. Note that the facility construction is currently set to be completed in July.

The off-port container storage yard is located approximately 2 kilometers from John Fernandes, LTD Main office located at 24 Water St, Georgetown, Guyana.

2.2 Facility Description

The NALCO Champion Georgetown Guyana Distribution Center is surrounded by facilities and property owned and operated by John Fernandes, Ltd

Physical structures on the warehouse site include the 3 one-story trailers for office, laboratory, change room sower room. Reference Appendix I for NALCO Champion Guyana Warehouse Overview. Note this site drawing will be updated once construction plans for the facility are finalized with John Fernandes.

The hazards of the chemicals handled and stored on-site, which may be encountered in an emergency, include flammable, combustible, or corrosive liquids. Refer to Appendix 1 for material and planned storage quantity.

Appendix I:

NALCO Champion plans to lease an oilfield distribution facility in Georgetown Guyana. The facility will be constructed by John Fernandes, LTD on property owned by John Fernandes LTD, in an area designated as John Fernandes inland container yard according to specifications provided by NALCO Champion. A chemical distribution warehouse close to the resupply base for off-shore operations is required to supply oilfield chemicals to Exxon Mobil FPSO's which will operate in the Liza/Payara oil fields.

Facility Overview:

John Fernandes LRD inland container yard is a greenfield site. John Fernandes owns many acres of land in the area. NALCO Champion's planned facility would occupy 5,000 sq. meters with the intent to extend the facility to 20,000 square meters as oil production expands in Guyana.

The structures on the property consists of the following:

- Modular work buildings
 - Laboratory
 - Office
 - Change/Shower/Bathroom for facility workers
 - Mechanical equipment/parts storage
- 1,000 square meters concreted and contained area.
 - Chemical transfer area designed to prevent accidental release of chemicals to the environment.
 - Storage area for sealed but partially full containers
 - Packaging area for transfer from IBC, iso, drum to off-shore tank designed to prevent accidental release of chemicals to the environment
- 4,000 square meters stabilized soil
 - Chemical storage for sealed/unopened iso tanks, 1,000-liter plastic ibc, drums and pails, offshore tanks, frames
- 15,000 square meters – undeveloped and ear marked for future expansion.

Initial Surveys and Construction on the site started in February 2019, after award of business to NALCO Champion. John Fernandes, LTD would apply for all construction and environmental permits required to build the facility. NALCO Champion would apply for environmental permits to operate the site. We expect construction to take 6 months with completion targeted for July 2019. The facility will be constructed to meet NALCO Champion requirements for warehouse and chemical transfer operations as well as to meet building codes as stipulated in Guyana regulations.

Product labels:

Product labels are applied to all containers. Product labels include the following information:

- The manufacturer's name and trademark;
- The name of the product and its brand;
- The batch number, date of manufacture;
- Shippers address;
- Gross and net weight;
- Designation of the normative document (product made to the Standard of Organization - ST);
- Danger symbols.

Inventory and Stock Management:

NALCO Champion estimates that 1,493,000 kg of specialty & commodity chemicals will be stored in Georgetown..NALCO Champion warehouse safety management process is taken seriously and has a high level of focus. All containers shipped to and within Guyana are properly labelled to identify the material, define safety protocols for handling and storage, meet "Right to Know" regulations, communicate UN shipping descriptions and meet Guyana requirements. NALCO Champion has identified the materials which require import licenses required by Guyana law and is putting in place procedures to ensure import licenses are applied for prior to the goods leaving the manufacturing plant.

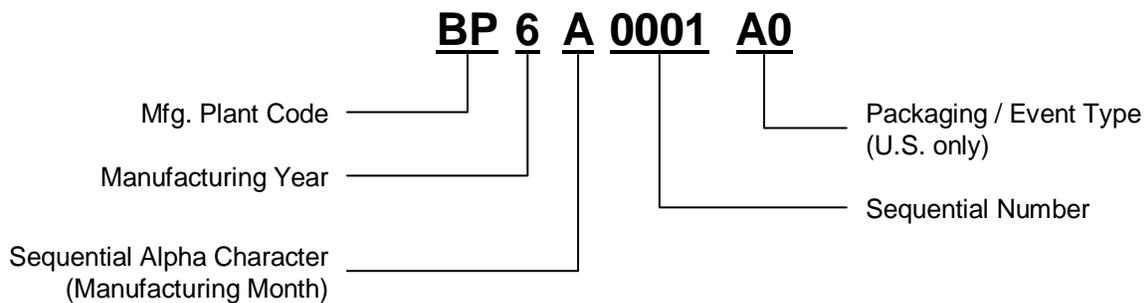
Chemical Segregation:

Very often, warehousing facilities are used to store a variety of different types of chemicals. Management of how and where these chemicals are stored in relation to one another is also critical from an HSE perspective. To ensure that non-compatible chemicals are segregated in an appropriate manner, a chemical segregation plan is used which identifies exactly where specific generic types of chemical should be stored to minimize any risk. For example, acids should be segregated from basic type products. Chemical segregation plans are built around the following UN/IMDG guidelines.

DANGEROUS GOODS & COMBUSTIBLE LIQUIDS STORAGE COMPATIBILITY CHART															
Class or Subsidiary Risk															
FLAMMABLE GASES	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m	
NON TOXIC NON FLAMMABLE GASES	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
TOXIC GAS	SEGREGATE At least 3m	OK TO STORE TOGETHER	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING GAS	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
FLAMMABLE LIQUIDS & COMBUSTIBLE LIQUIDS	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 5m	SEGREGATE At least 3m			
FLAMMABLE SOLID	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES
SPONTANEOUSLY COMBUSTIBLE	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
DANGEROUS WHEN WET	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING AGENT	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 5m	KEEP APART	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
ORGANIC PEROXIDE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	OK TO STORE TOGETHER	ISOLATE	SEGREGATE At least 3m
TOXIC SUBSTANCES	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	ISOLATE	OK TO STORE TOGETHER	SEGREGATE At least 5m
CORROSIVE	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES			

NALCO Champion materials are batch managed. An example of a NALCO Champion generated batch number follows:

Example 1 NALCO Champion. Batch Number



The batch number system makes it easy to identify age of product and to rotate shipments based on a first in first out basis to manage stock rotation and ensure materials are utilized prior to shelf life expiration.

Packaging and Storage

NALCO Champion complies with UN package performance standards to ensure that from a safety and regulatory adherence to laws and regulations. Material compatibility, material specific gravity, vapor pressure, and flash point are key elements which feed into the decision on the kind of container selected and used for transport and storage as well as the fill weight of the material. All containers purchased will be stenciled or embossed by the container manufacture with the UN package performance standard. An example of a performance package standard for a 10L plastic pail follows:

10L plastic pails. UN specification 3H1/Y1.8/100 The UN. A screw on cap required.

1,000-liter plastic containers will be marked with the following UN package performance standard. These considered composite containers

8. Kennzeichnung / Marking

Die nach der zugelassenen Bauart serienmäßig gefertigten Großpackmittel (IBC) sind wie folgt zu kennzeichnen.

Intermediate Bulk Containers manufactured in series corresponding to the approved design type shall be marked as follows:

IBC SM:



31HA1 /Y/..../D/BAM 11027-**/4070/*

IBC RM-SM:



31HA1 /Y/..../D/BAM 11027-***#RM/4070/*

31HA1 indicates that the container is for liquids

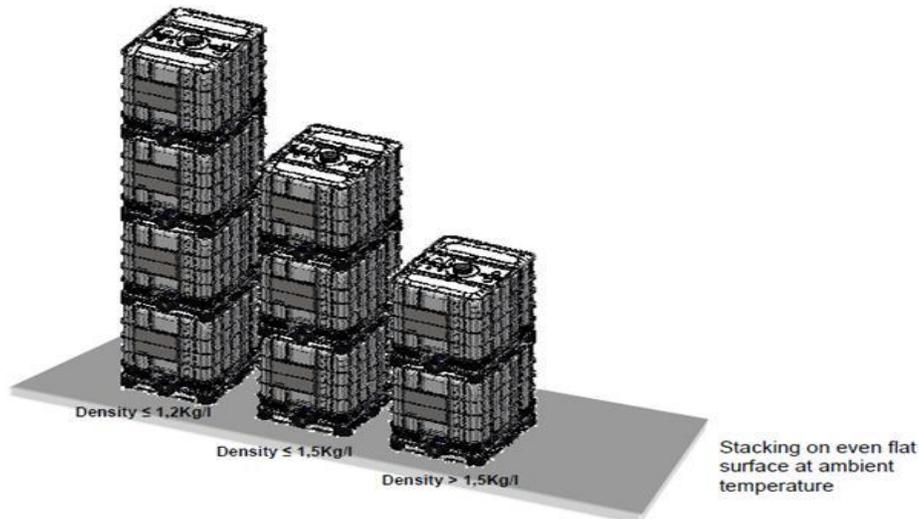
“H” denotes IBC

“A” indicates that the container is composite of HDPE within an aluminum frame on either a wooden or aluminum pallet.

“Y” indicates that the container is suitable for carrying non-hazardous materials and hazardous material assigned packing groups II and III

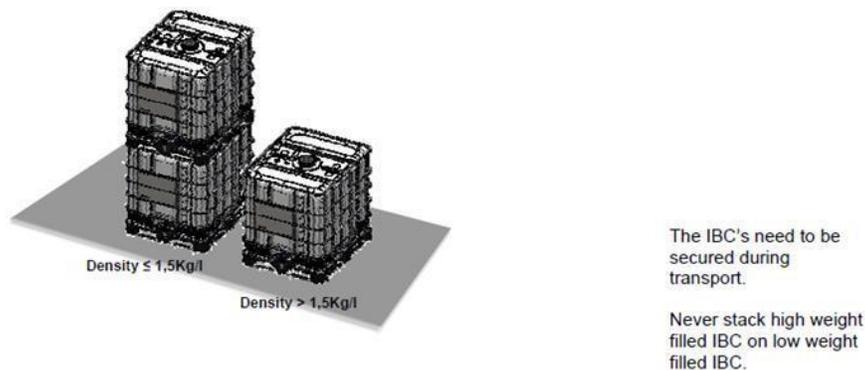
NALCO Champion uses best practices recommended by the container manufacturer along with corporate guidelines to determine how many containers can be stored in a stack. The following diagrams show the recommended stack heights based upon the specific gravity of the product. Should local regulations stipulate a lesser stack height then local regulation will take precedence.

Static load:



Stacking height for dynamic loads (loads exposed to motion) should not exceed 2 high and must be secured for transport.

Dynamic load:



Under ideal conditions plastic drums on pallets can be stacked four high. However, other factors impact the decision on drums stack height such as temperature, partially filled drums, exposure to direct sunlight, drums fitted with pressure relieving vents, density of the product. When taking these safety factors into consideration along with weight of each drum NALCO Champion limits to drum stacks to 2 to 3 pallets per drum stack. Iso Tanks and offshore tanks will be stacked 2 high.

Nalco Champion Guyana will be storing and shipping material also in 21K Liter & 24K Liter ISO Tanks. These tanks will be used for safe storage of our chemistry within our base. These tanks have the following safety features:

- Insulated tanks to protect against fires and heat
- Protective Pressure vents to prevent ruptures
- Secondary internally valve with a fusible connection that pops in emergency to close
- Steel Frames around each to prevent damage to tank and shell
- Tanks adhere to DNV and IMDG standards for IMO/ISO tanks

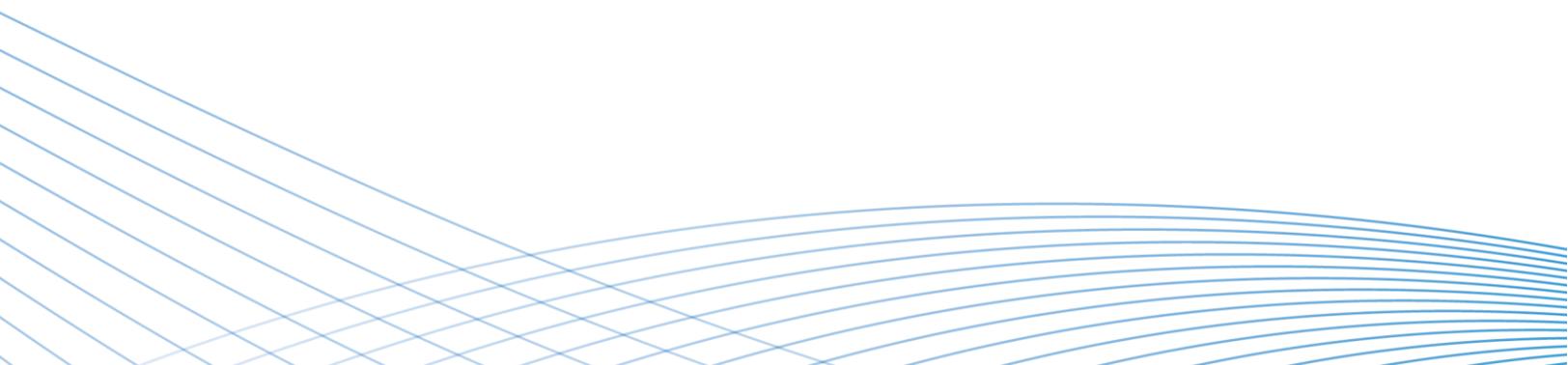
See images below:



Section III

Summary Bunkering Management Plan

**John Fernandes Inland Yard
4055 Mandela Avenue**



A chemical transfer and cargo loading facility is required to cargo lift of empty or full containers to and from the supply boat or to pump production chemicals from iso tanks onto the supply boat hull tanks. Once the cargo and bulk materials are loaded onto the supply boat all materials will deliver to FPSO's located in the Liza/Payara oil fields.

NALCO Champion plans to utilize John Fernandes ShareBase located at 13 Water Street, Georgetown as a chemical transfer and cargo loading/unloading facility.

Facility Overview:

The facility infrastructure consisting of dock, iso tank containment area and cargo staging area, will be constructed and owned by John Fernandes, LTD See Appendix 1a for the location of John Fernandes LTD shore base yard. Appendix 1b shows the proposed dock, iso container staging area and cargo laydown area. Nalco Champion will utilize the facility on a as needed basis, meaning that only within 24 hours of the planned vessel load date will Nalco Champion stage material at the dock. JFL Shore base already exists and is operational. Iso tank containment area construction will start April 2019 and be completed within 60 days. The facility will be constructed to meet NALCO Champion requirements for cargo loading and chemical transfer operations as well as to meet local construction code. Reference Appendix 1c for a general layout of the facility. Appendix II lists the materials that will ship either in containers or transferred at the dock.

Lift Operations:

Empty and full chemical containers:

These containers will be staged no sooner than 24 hours prior to vessel loading and if containers are discharged from the vessel, they will be removed within 24 hours after vessel departure. Nalco Champion expects to lift 4 to 5 containers per week onto the supply boat.

This category of containers consists of 550-gallon stainless steel tanks, 5,000 liter off-shore tanks, and mini-containers. All tanks meet UN performance package standards for the chemicals being transported. Reference appendix Va and Vb for examples of these containers.

The containers will arrive at John Fernandes facility in lift ready condition, with all containers properly labeled and all doors, dome lids and outlets in sealed condition.

NALCO Champion complies with UN package performance standards to ensure that from a safety and regulatory adherence to laws and regulations. Material compatibility, material specific gravity, vapor pressure, and flash point are key elements which feed into the decision on the kind of container selected and used for transport and storage as well as the fill weight of the material. All containers purchased will be stenciled or embossed by the container manufacture with the UN package performance standard.

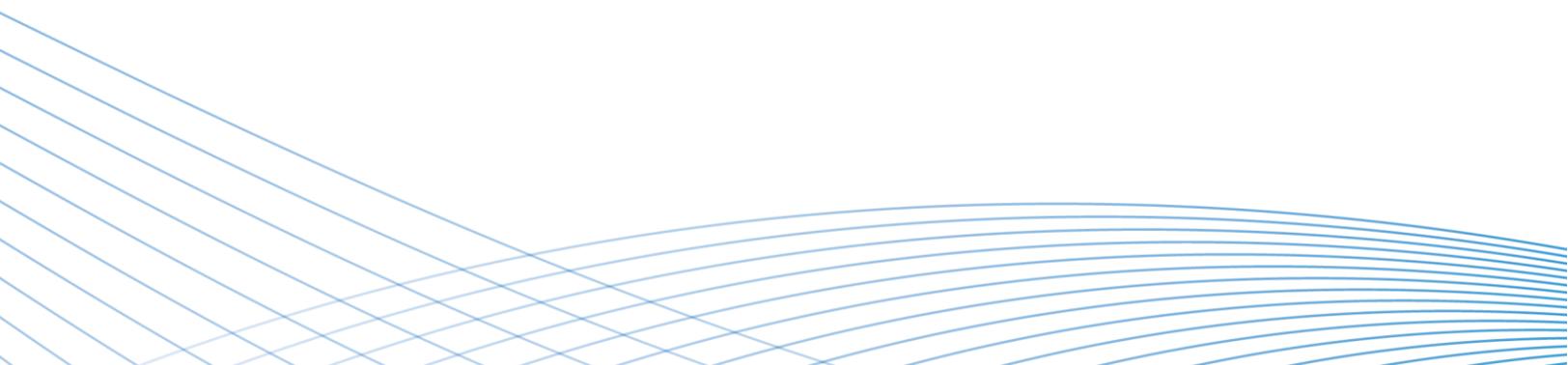
All containers shipped within Guyana will be properly labelled to identify the material, define safety protocols for handling and storage, meet “Right to Know” regulations, communicate UN shipping descriptions and in general meet Guyana requirements. In the absence of Guyana requirements IMDG standards will be applied.

Product labels:

Product labels are applied to all containers. Product labels include the following information:

- The manufacturer's name and trademark;
- The name of the product and its brand;
- The batch number, date of manufacture;
- Shippers address;
- Gross and net weight;
- Designation of the normative document (product made to the Standard of Organization - ST);
- Danger symbols.

To ensure that non-compatible chemicals are segregated in an appropriate manner, a chemical segregation plan is used which identifies exactly where specific generic types of chemical should be stored to minimize any risk. For example, acids should be segregated from basic type products. Chemical segregation plans are built around the following UN/IMDG guidelines.



DANGEROUS GOODS & COMBUSTIBLE LIQUIDS STORAGE COMPATIBILITY CHART														
Class or Subsidiary Risk														
FLAMMABLE GASES	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
NON TOXIC NON FLAMMABLE GASES	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
TOXIC GAS	SEGREGATE At least 3m	OK TO STORE TOGETHER	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING GAS	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
FLAMMABLE LIQUIDS OR COMBUSTIBLE LIQUIDS	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
FLAMMABLE SOLID	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES
SPONTANEOUSLY COMBUSTIBLE	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 3m
DANGEROUS WHEN WET	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING AGENT	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	KEEP APART	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
ORGANIC PEROXIDE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	OK TO STORE TOGETHER	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
TOXIC SUBSTANCES	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	ISOLATE	OK TO STORE TOGETHER	SEGREGATE At least 5m
CORROSIVE	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES

Chemical Pumping (bunkering) Operations:

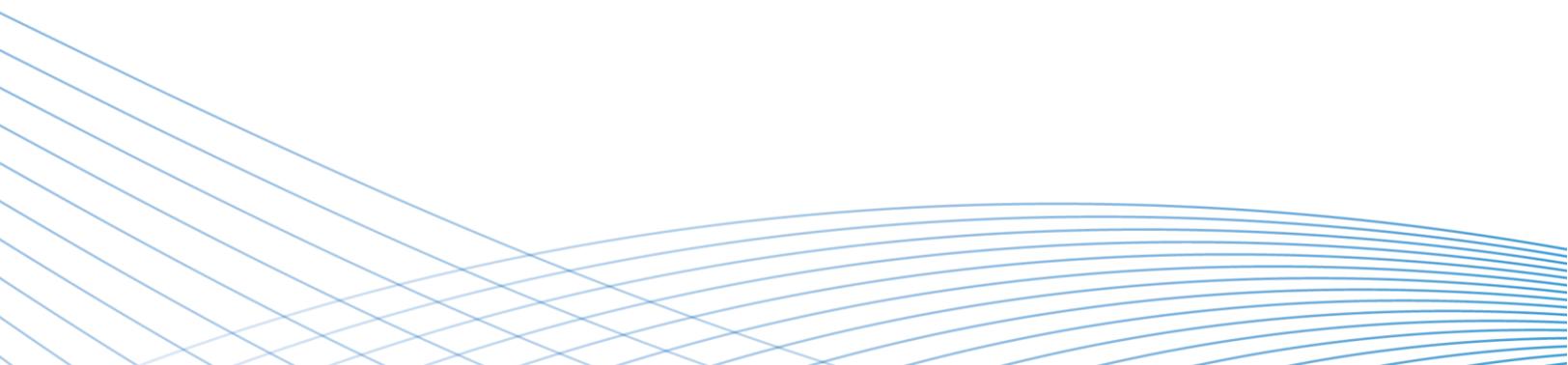
Nalco Champion would position a 53' foot pumping trailer on the dock for pumping operations (iso tank to supply boat). Methanol, Xylene, Asphaltene Inhibitor, Corrosion Inhibitor and Emulsion Breaker are the materials that will be transferred to the supply boat.

The Pumping trailer is self contained with the pumps, piping, flow meters and filters located within a containment pan. The trailer itself will sit within a temporary containment berm as shown in the appendix. Prior to disconnecting hoses, all lines will be cleared using Nitrogen which will effectively remove any residual chemical in the lines. All hose connections will be done using dripless connections as an additional means of containment with secondary containment means of disconnecting hoses over pails and drip pads.

Key safety equipment that will be positioned on the dock near the chemical transfer area will be safety shower/eye wash stations, two spill containment kits, 2-120 lb wheeled ABC fire extinguishers and temporary containment berm will be positioned near the chemical transfer area.

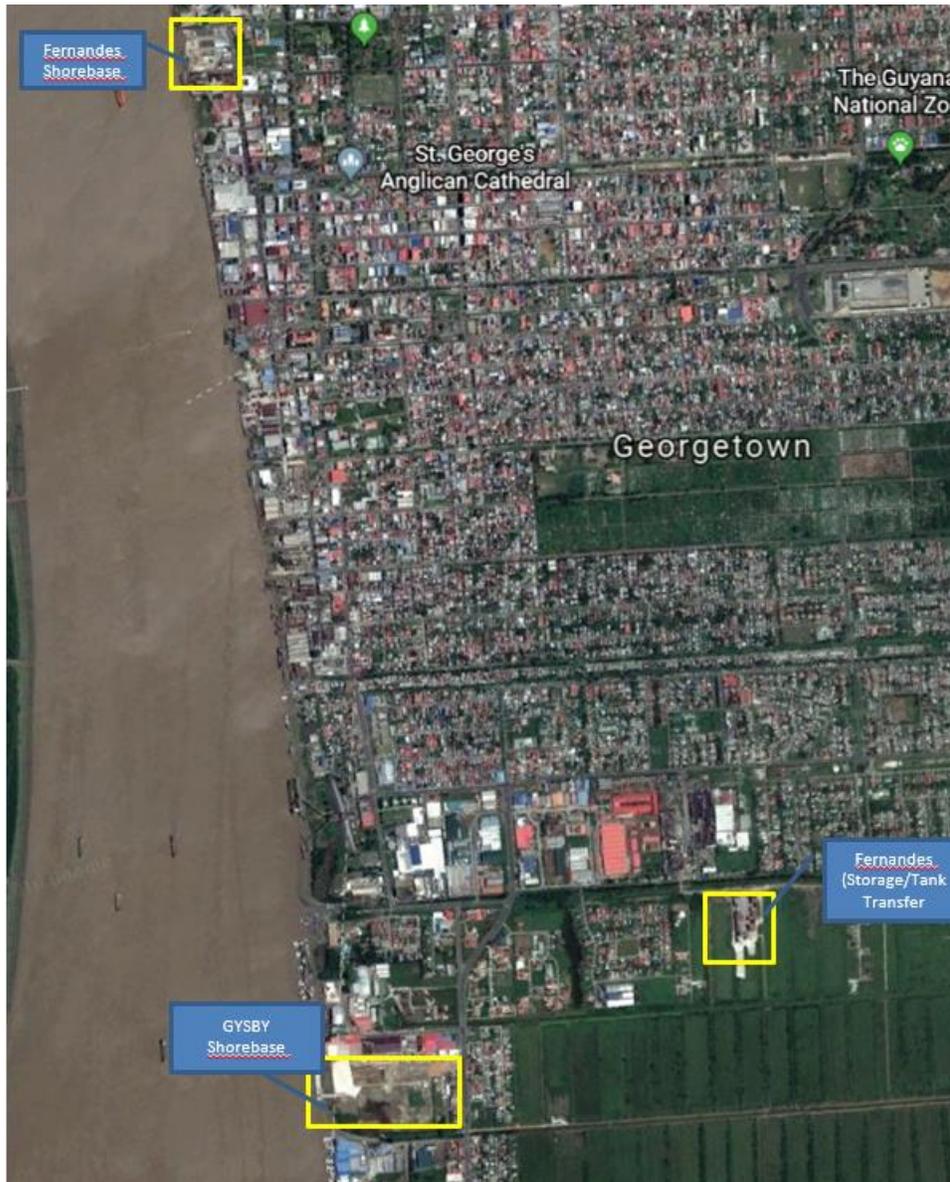
The entire process is designed to prevent accidental mixing of chemical or discharge of chemical to the environment. Nalco Champion Guyana will use dedicated hoses for each product and specialty keyed fittings as shown in the appendix. The keyed fitting prevents accidental hook up hose to the wrong supply tank and pump. The pumping trailer is designed to discharge one iso tank per hour. Nalco Champion expects to pump up to 28 iso tanks per week.

Nalco Champion has a 12-year history safely operating a chemical transfer terminal in Port Fourchon, LA. Elements from each of these procedures will be incorporated into a detailed site-specific Nalco Champion Guyana procedure for the John Fernandes Shore Base Facility. We've included pictures from an actual transfer that was recently completed in Port Fourchon. The pictures will provide visual clue on how the operation would look when conducted at John Fernandes Shore base facility.

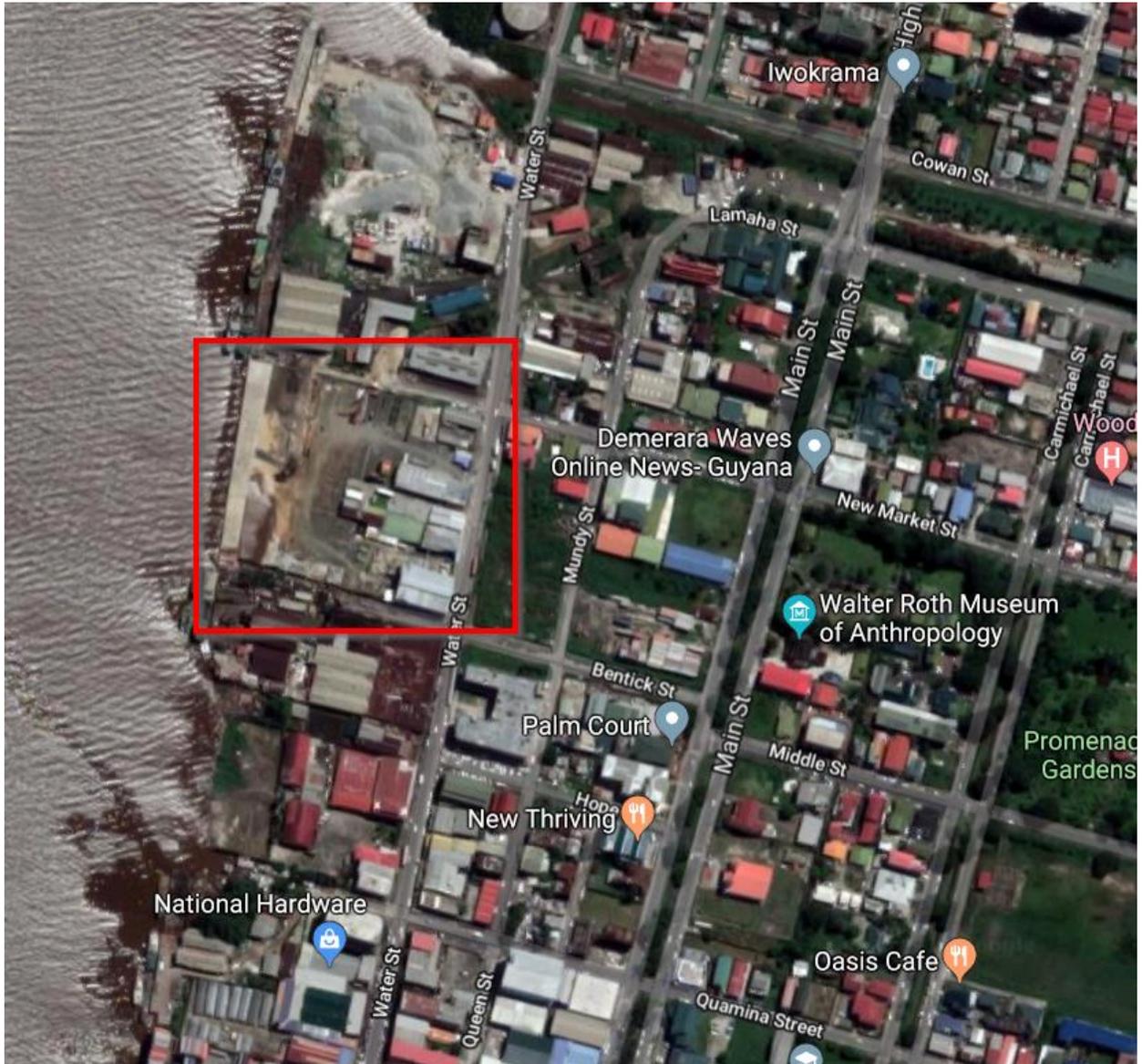


Appendix

John Fernandes Shorebase Location in relation to Nalco Champion Chemical Storage Facility



John Fernandes ShareBase Site Layout



Nalco Champion Guyana Area of Operation within the John Fernandes ShareBase



Pumping Trailer & Temporary Containment Berm

Temporary Containment Berm:

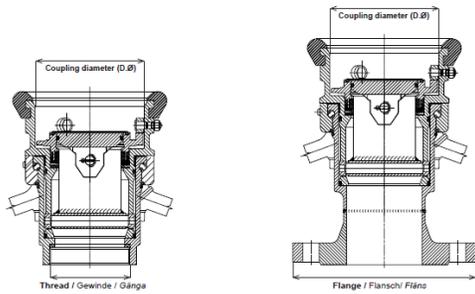


Picture of Operations in Port Fourchon



Todo Connections – Dripless fittings

TODO-MATIC® Hose unit



Hose unit with thread
Mutterteil mit Gewinde / Slangdel med gänga

Thread Gewinde Gänge	According to Nach Standard Enligt standard
ISO 228-G	
NPT	ANSI B.2.1

Hose unit with flange
Mutterteil mit Flansch / Slangdel med flans

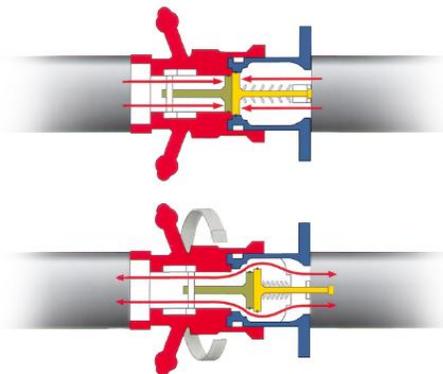
Flange Flansche Flans	Drilled according to Gebohrt nach Standard Bornde enligt standard
EN	EN 1092
DIN	DIN 2631, DIN 2633
ASA	ANSI B16.5
TW	DIN 28409
T.T.M.A.	RP No. 28-04

Dimensions

Dimension Hose unit DN Mutterteil Dimension slangdel	Coupling diameter Kopplingsdiameter Fittingsdiameter	D.Ø
1/2"	20	50 mm
1"	25	50 mm
1 1/2"	32	50 mm
1 1/2"	40	70 mm
2"	50	70 mm
2 1/2"	65	105 mm
3"	80	110 mm
4"	100	104 mm
6"	150	238 mm

Function

After connecting to the Tank Unit turning the Hose Unit 15 degrees clockwise locks the coupling halves together. At this stage the valves are still closed and will not open until a further rotation of 90 degrees has been performed. Product can now flow. To close the valve and to unlock the units, reverse the procedure.

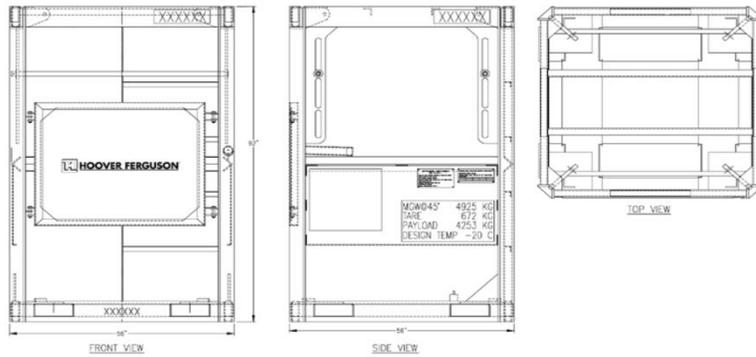


Off-Shore Containers - 5,000 liter off shore bulk tank.

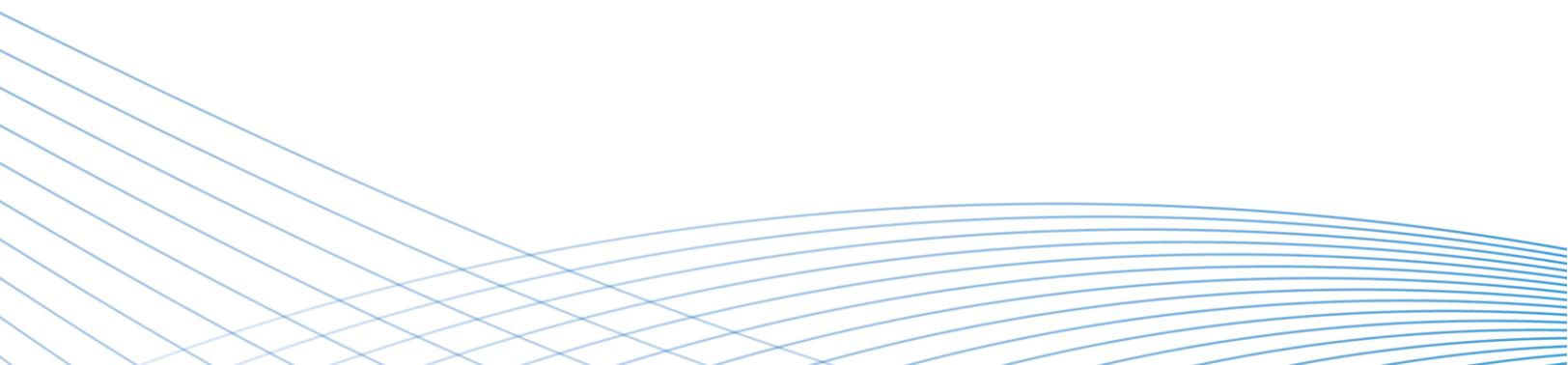


550 gallon off shore tank and related lift frame



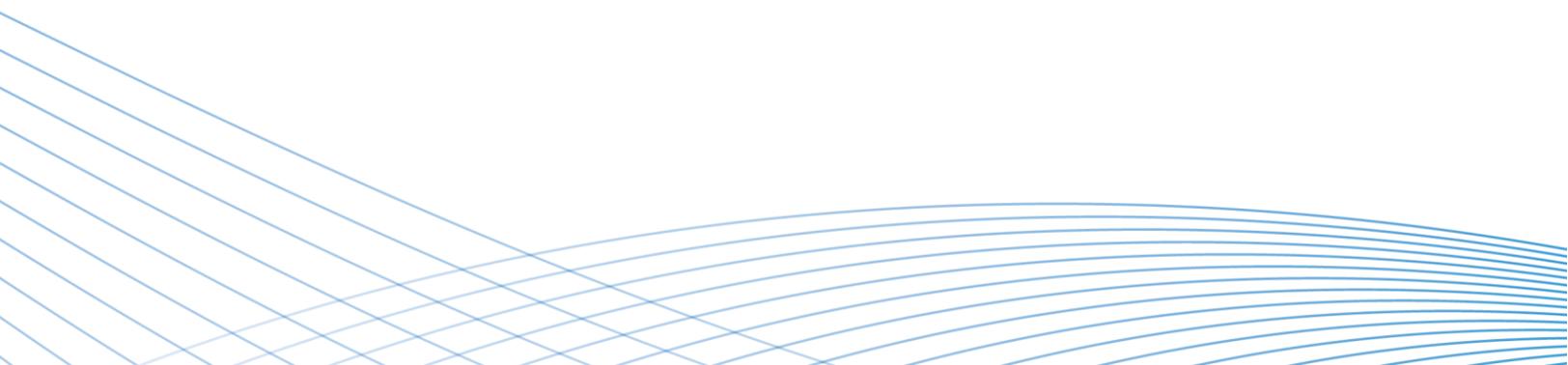


Off-Shore Containers Mini Container



Section IV

Emergency Response Management Plan



Annex 3 Response Management System

3.1 Emergency Response Organization

The Emergency Response Organization at the NALCO Champion Georgetown Guyana Distribution Center consists of the site manager and all operations level personnel at the site. The site manager will assume the role of Emergency Coordinator in any emergency event.

Should additional emergency response personnel (e.g. John Fernandes Ltd) be required to mitigate an incident involving NALCO Champion Georgetown, Guyana Distribution Center subleased property, then the responding agency commander will assume the position of Incident Commander for the remainder of the event. At that time, all NALCO Champion Georgetown, Guyana Distribution Center personnel will be under the direction of the Incident Commander.

3.1.1 Emergency Coordinator

Primary responsibility: Site Manager

Alternates (in descending order): Operations Personnel

3.2 Emergency Communications Plan

During an emergency, NALCO Champion Georgetown, Guyana Distribution Center employees will make every effort to communicate accurate information to our neighbors, community, and appropriate agencies by utilizing notification lists found in Annex 2

3.3 Evacuation/Shelter-in-Place/Headcount

In the event of an emergency, it is critical to account for all site personnel to ensure all are safely out of the hazardous area. The site assembly may be either as an evacuation to a safe zone or as a shelter-in-place action to prevent exposure:

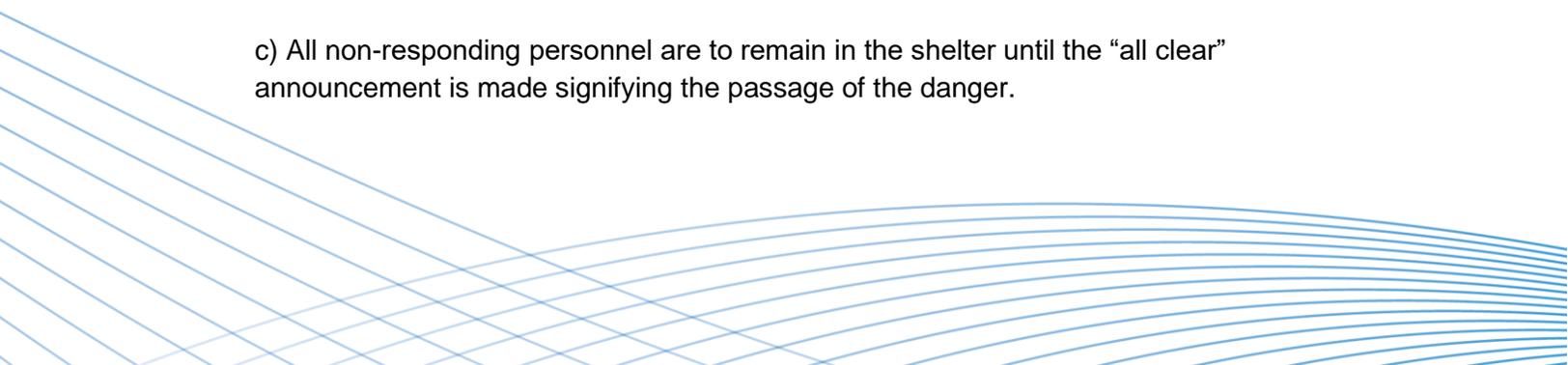
- A shelter-in-place is generally used to protect against a harmful gas release by sheltering in a safe haven until the release has dissipated to nonhazardous levels

- An evacuation is used to remove threatened populations from the emergency vicinity

1) Evacuation Procedure

- a) An evacuation is generally ordered by the Emergency Coordinator.
- b) Site personnel who are not involved in the response, are expected to follow designated evacuation routes to the primary assembly area in the employee parking area in the front of the warehouse.
- c) The Emergency Coordinator or designee in the assembly area will account for the employees who were on the site at the time of the emergency.
- d) Employees will remain in the assembly area until the “all clear” announcement is made signifying the emergency is over.
- e) If the primary assembly area is not a safe evacuation point, the Emergency Coordinator or designee will announce an alternative location and employees should proceed there accordingly.
- f) For evacuations of neighboring facilities and the public, the Emergency Coordinator will consult with local emergency responders such as the fire and police departments to coordinate this evacuation.

2) Shelter-in-Place Procedure

- a) If a shelter-in-place is declared, all site personnel should proceed to the warehouse offices area where the Emergency Coordinator will perform a headcount. Warehouse personnel and contractors in the field should evacuate upwind and perpendicular to release and remain in a safe area until emergency passes.
 - b) When sheltering-in-place, all doors and windows should be sealed, with duct tape if possible, and all HVAC systems must be shut down to ensure no intrusion of the harmful vapors.
 - c) All non-responding personnel are to remain in the shelter until the “all clear” announcement is made signifying the passage of the danger.
- 

d) If sheltering-in-place of neighboring facilities and the public is required, the Emergency Coordinator will consult with local emergency responders such as the fire and police departments to coordinate this action.

3.4 Operations

The Nalco Company Warehouse has established operational procedures for response to various types of emergencies. These procedures are detailed according to the emergency type in the Appendices to this Annex:

Emergency Appendix Fire A Explosion B Spill or Release C Medical Emergency D
Tornado/Severe Weather Emergency E Bomb Threat F Electrical Emergency G Natural
Gas Emergency H

3.5 Planning

3.5.1 Facility Hazard Assessment

The potential hazards of chemicals used at the NALCO Champion Georgetown, Guyana Distribution Center facility include:

- Corrosive Liquids • Toxic Liquids • Flammable liquids • Hazardous waste – May be toxic, flammable or both – Liquid or solid

- Risk is generally limited to exposure of on-site workers to material with acute health hazard (e.g., corrosive) and potential for small fire with no off-site effects

Of these hazards, the flammable liquids have the greatest potential to produce an incident that could affect both on-site workers and off-site receptors.

3.5.2 Protection

Protection activities are primarily focused on limiting the consequences of onsite exposure and the chance for an offsite impact caused by an incident at the facility. Activities to limit the chance and consequences of an incident include:

- Spill and release response measures
- Release mitigation measures (e.g., deluging a release with water from a safe distance to suppress vapors)
- Activation of local emergency response system for summoning municipal responders and for alerting potentially endangered sections of the public

3.6 Logistics

3.6.1 Medical Needs

The medical needs of personnel in an emergency will be taken care of by medical services personnel and the ambulance capability at the SOS Guyana

3.6.2 Site Security

Site security is controlled by NALCO Champion Georgetown, Guyana Distribution Center. All personnel allowed in the Nalco portion of the host site must pass through the John Fernandes Ltd Security gates.

During off hours (nights, weekends, and holidays) all doors and gates are locked or secured, and no access is possible except by authorized personnel.

3.7 Resources/Finance/Procurement

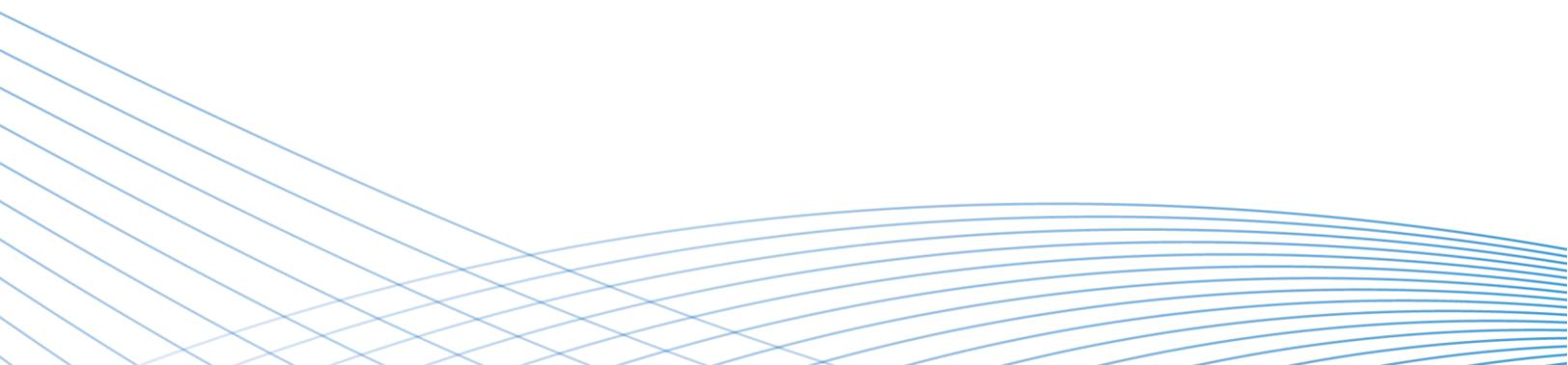
Staffing of the Emergency Response Organization as detailed in 3.1 above is at the discretion of the Emergency Coordinator or Incident Commander at the time of the emergency. Other personnel in addition to those filling the key response organization positions may be called in as deemed necessary utilizing the call lists in this plan.

3.7.1 Response/Support Equipment

The following equipment resources are available at the Nalco Company Georgetown facility.

- Portable Fire Extinguishers
- Safety Showers
- First Aid Kits
- Spill Pads
- Drainage shut-off valves
- Telephones

Section V
Emergency Response Procedures



Appendix A – Emergency Response Procedures

Fire Control Procedure

1. Fire Prevention

All precautions are made to prevent fire. Daily, weekly, and monthly inspections to pinpoint fire hazards, are conducted by operational personnel.

1.1. Training

Site personnel have been trained to evaluate a fire and determine if it can be controlled with fire extinguishers. How to use a fire extinguisher and what kind of fire extinguisher should be used. Most of the staff have also been trained in how to use air packs, first aid, and CPR, which may be needed in a fire emergency. Drills will be implemented to improve training on this procedure.

1.2 Fire Evaluation

In the event of a fire, the person that spots the fire should alert a member of the staff trained in fire control. Trained personnel should determine if the fire can be controlled with fire extinguishers or if Georgetown Guyana Fire Department should be contacted. No one should attempt extinguishing a fire alone.

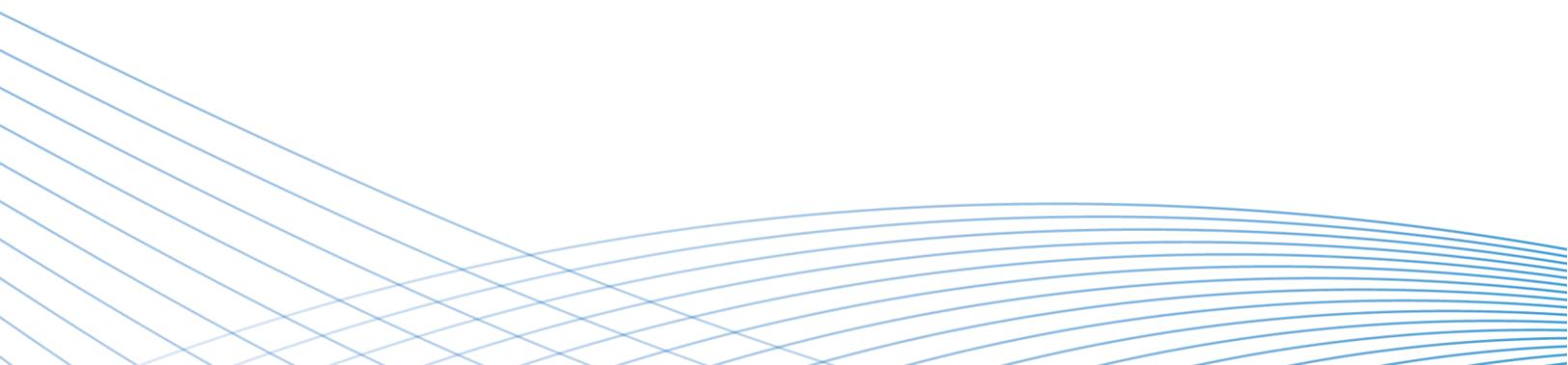
1.3 Extinguishing Fires

If it is determined that the fire can be controlled with fire extinguishers another member of the staff must be alerted of the fire emergency to assist with extinguishing the fire and to alert an Emergency Contact of the fire emergency. The Georgetown Fire Department should then be called to insure the fire is properly extinguished. If the fire can not be controlled with fire extinguishers the Georgetown Fire Department must be called and the site evacuated.

1.4. Classification of Fires

- 1.4.1. Class A - Fires in ordinary combustible materials such as wood, coal, paper, or fabric where wetting and cooling is the method of extinguishing used. Here water or solutions containing a large percentage of water are of first importance.
- 1.4.2. Class B - Fires in flammable petroleum products and other flammable liquids or greases where it is essential to exclude oxygen as a method of extinguishing.
- 1.4.3. Class C - Fires in or near energized electrical equipment so that the use of water as an extinguishing agent would be hazardous, necessitating the use of a "non-conducting" extinguishing agent.
- 1.4.4. Other Fires - Certain combustible materials or reactive chemicals require, in some cases, special extinguishing agents or techniques. Smothering or coating is the basic approach of extinguishing.

1.5 Special Instructions

- 1.5.1. To eliminate the risk of job site personnel using the wrong extinguisher and to reduce the excessive costs of maintenance when different types of fire extinguishers are utilized. Each location's fire extinguisher requirements should be reviewed, consult with the vendor where necessary and consider the use of multi-purpose dry chemical fire extinguishers (stored pressure) when making purchases of such equipment.
 - 1.5.2. Dry chemical or Co₂ extinguishers are recommended where temporary or permanently installed electrical equipment is present.
- 

1.6 Distribution

Fire extinguishers are located along the normal path of travel, easily accessible, and readily available.

1.6.1 Location on Job Site

1.6.1.1. The following rules shall govern the placing of fire extinguishers:

- a. Locate extinguishers near likely fire hazards.
- b. Place extinguishers so access to them will not be blocked by fire.
- c. Enough extinguishers have been installed to deal with the severity of the blaze that may be expected, the rapidity with which it might spread, intensity of heat, etc.
- d. Locations are marked conspicuously.
- e. Each unit is identified for the type of fire it is designed to combat.
- f. Protect extinguishers from traffic.
- g. Place extinguishers so that their tops are not more than 4 feet above the floor.

1.7 Responsibility

1.7.1 The Operations Manager or his designee shall be responsible for preventing and controlling fires associated with work operations. He shall see that where practical and possible that combustible materials (solids, liquids, and gases) are kept away from fire producing work operations. If the combustible materials cannot be practically moved away from the work operation, always consider the possibility of moving the work operation away from the combustible materials.

1.7.1.1. Study work operations and survey work site to determine type and extent of fire exposure associated with the work.

1.7.1.2. Determine what can be done to remove work from exposure or exposure from work.

1.7.2. If exposure cannot be eliminated, how can it be reduced? Ask yourself the following questions:

1.7.1.1. Can combustible materials be covered, wet down, or shielded from work operations?

1.7.1.2. Can ignition sources be kept up-wind from combustible materials?

1.7.1.3. Do I have sufficient and proper type of extinguishing equipment to control a possible fire?

1.7.1.4. Should I post a fire watch?

1.7.1.5. Do I know all the combustible materials and the ignition sources associated with this operation?

1.7.1.6. Have all valves and lines been closed and blanked and have I personally checked these or am I relying on someone else or assuming?

1.7.1.7. Are other workmen, crews, customer personnel, etc., aware of my work operation and do they know the extent and duration of these?

1.7.1.8. What is the least number of men needed to safely perform this work and not have unnecessary workmen exposed?

1.7.1.9. In an emergency, can I safely evacuate my workers?

1.8 Method of Use

- 1.8.1. The Operations Manager will be thoroughly familiar with the operation of the extinguishers on the job site and teach all new employees how to operate the extinguishers.
- 1.8.2. When an extinguisher is used, it shall be refilled immediately.
- 1.8.3. If it cannot be refilled, it should be broken down and put in a place where everyone will know it is inoperative.

CAUTION: DO NOT PUT EMPTY EXTINGUISHERS WHERE THEY MIGHT BE MISTAKEN FOR FILLED EXTINGUISHERS. IMMEDIATELY REPLACE EMPTY EXTINGUISHERS WITH A FULLY CHARGED EXTINGUISHER

1.9. Maintenance and Filling

- 1.9.1. Extinguishers shall be recharged immediately after use, or biannually if not used.
- 1.9.2. All extinguishers shall be recharged when the gauge indicates the pressure is outside of the proper operating range.
- 1.9.3. All extinguishers shall be visually inspected monthly and inspection results recorded on checklist.

1.10 Explosions

- 1.9.1. In the event of an explosion, Trained personnel should determine if the situation can be controlled by site personnel if not the Georgetown Guyana FireDepartment should be contacted.
- 1.9.2. No one should attempt to enter the area until the situation has been assessed from a safe distance. The area should be barricaded, and all

non-essential personnel should leave the area.

- 1.9.3. All efforts should be made to prevent the situation from endangering the community or the environment. Without risking the safety of the employees.

Appendix B Spill or Release Procedure

1. Spill Notification Procedures and Initial Response

1.1. Initial Response

In the event of a chemical spill, the responding personnel must concentrate all their initial efforts toward the containment of the spill. All valves and pumps that may be supplying the spill must be shut in the "off" position. Temporary dikes of sand or other compatible material must be used to contain runaway spills.

1.2. Spill Notification

- 1.2.1 When the immediate emergency has been brought under control follow notification protocol as described in Guyana ICP Annex 2 Notification Plan Version B. Immediately call the emergency coordinators

In a event of a major spill, immediately call the site Supply Chain Manager &Regional SC Manager, Base Colombia.

- 1.2.2. When one or more of the people on the list have been contacted, you must size up the spill area. Determine if the situation can be controlled, neutralized, and disposed of by our own personnel.

- 1.2.2.1. If the spill is greater than one gallon, notify and Supply Chain Manager & Regional Supply Chain Manager must be notified within an hour of the spill.

1.2.2.2. Determine the need for evacuation of the facility.

2. Spill Control

2.1. General Information

2.1.1. All chemical spills should be contained as much as possible. Sand can be used to form a dike if necessary. Spills greater than 1 gallon endangering the environment should be immediately reported to Supply Chain Manager & Regional Supply Chain Manager Note: Comply with corporate procedure for reporting spills.

2.1.2. A supply of personal protective equipment is available. A constant supply of absorbent spill pads shall be kept available for use.

2.1.3 Spills that do not enter the drainage system can be cleaned up using absorbent pads or other sorbent materials if the spill is a flammable substance or by using sand to absorb other type chemicals. All efforts should be made to contain and dike spill and prevent any discharge to the drainage ditch. If necessary, dike ahead of spill and around any drains leading off site. Please refer to the Special Instruction Section for precautions when cleaning up acids, alkalis, or toxic spills.

2.1.4. If the spill is large enough, use a vacuum system to pick up as much of the spill as possible and follow-up with sorbents or clay to remove the remainder of the spill. Contain the spill by diking. Notify the Emergency Contact Person immediately if a large spill occurs that could possibly reach the drainage ditch.

2.1.5. Spills occurring in the diked and curbed areas should be diverted to the sump and pumped to the dump tank.

3. Special Instruction Section

3.1 Alkaline Corrosive Materials

Clear the area of non-emergency personnel. Contain spill area by damming with spill absorbent materials. Wear a slicker suit, chemical goggles, and chemical boots for cleanup operations. Secure spill source. For large spills use a vacuum to clean up the spill for proper disposal. For small spills remove contaminated soil to proper container for disposal.

3.2. Acidic Materials

Clear the area of non-emergency personnel. Secure the leak's source. Wear rubber gloves, chemical goggles, rubber boots, and chemical cartridge respirators or self contained breathing apparatus. Contain spill area by diking with spill absorbent materials.

3.3 Flammable and Combustible Solvents

Clear the area of non-emergency personnel. Secure spill source and contain the spill. Secure the area from ignition sources such as forklifts, plant pick-ups and maintenance carts. Use a vacuum truck for large spills.

3.5 Decontamination

All personnel and equipment must be (cleaned) decontaminated. Reference the MSDS for any information need to determine the best cleaning solution or neutralizer.

- 3.5.1. Clean the equipment with compatible solution.
- 3.5.2. Clean all boots, hard hats, and other PPE with a compatible solution.
- 3.5.3. Dispose of chemical suits and gloves in solid waste container

3.5.4. Personnel should wash with fresh water and soap.

Appendix C Medical Emergency Procedure

1. Minor injuries

Site personnel have been trained in first aid, and CPR. For minor injuries such as a minor laceration first aid should be adequate.

1.1 All injuries should be monitored for infection or other complications.

1.2 All injuries must reported to the Supply Chain Manager.

2. Major Injuries

The SOS Clinic is equipped to handle most injuries or illnesses. Arrangements have been made with the SOS Clinic to handle Nalco's medical emergency needs.

2.1 For severe injuries first aid should be administered to stabilize the person until a doctor can treat the injuries.

2.2 After the person's injuries have been stabilized the patient should be transported to the Malongo Clinic.

2.2.1 If the injuries are too severe to transport the patient by car, an ambulance should be used.

2.3 A NALCO Champion representative must accompany the injured person to the clinic or any other medical facility used to treat the patient.

Appendix D

Tornado/Severe Weather Emergency

1. General Information

In this region of the world, Tornados, Tropical Cyclones, Blizzards, Earth Quacks, or any other severe weather conditions are not common. Due to the location of the NALCO Champion facility flooding, land slides or tidal waves should not affect the facility.

2. Thunderstorm

During Thunderstorms avoid being out in the open or standing under trees in an open area.

- 2.1 Don't stand on tanks.
- 2.2 Turn off computers; do not use the phone or other electrical appliances.
- 2.3 Avoid running the water showering or bathing.
- 2.4 Take shelter in a closed building, away from windows.
- 2.5 If flooding may occur put trashcan, partial drum or other items that may float away above the potential flood level.
- 2.6 If high winds are present with the storm attempt to secure any items that may blow away.

Note: Do Not attempt to secure items from high winds or flooding unless it can be done safely.

3 Tropical Cyclones

There is generally several days advanced warning to prepare for the storm. Along with high winds Tropical Cyclones bring large amounts of rain that can cause flooding. There is generally wide spread power and water outages due to damaged power lines. During the advanced warning time get the supplies needed to last a week without power and water and prepare the facility for high winds flying debris and flooding.

- 3.1 Take all precautions for Thunderstorms from section 2 of this procedure.
- 3.2 Take shelter on high ground in a building that is anchored to the ground or built on a foundation.
- 3.3 Board up or tape windows to protect from flying debris.
- 3.4 After the storm is over inspect the facility for damage or chemicals that are missing.

Note: Do Not attempt to secure items from high wind or flooding unless it can be done safely.

Appendix E Bomb Threat

1 Bomb Threat General Information

In most cases when there is a bomb threat it turns out to be a false alarm, but all bomb threats must be taken seriously. If a bomb treat is made or a suspicious package is found the operation must be shut down and the area evacuated, as soon as it can safely be accomplished. Shut down must be done in a manor that will not set off the bomb if it is wired to the equipment. Do not turn on or off any electrical switches until the equipment has been assessed.

2 Notification and Evacuation

If a bomb threat is made or a suspicious package is found contact the Emergency Contact and the local authorities immediately.

- 2.1 If the exact location of the bomb is known barricade the area; do not allow anyone into the area except the trained professionals.
- 2.2 Barricade the entrances to the facility and the road that passes next to the plant.
- 2.3 Evacuate the area of all non-essential personnel.
- 2.4 If combustible materials are near the explosive device attempt to move them to a safe area or shield, them if it can be done safely without disturbing the device.
- 2.5 After the local authorities arrives turn over command to them.

3 Area Assessment and Shut Down

If the bombs location is unknown or if it appears a bomb is wired to the equipment, the area must be evaluated before any equipment can be turned off or valves closed. If the bomb or suspicious package is discovered to be isolated and in no way connected to any equipment normal shut down procedures can be used.

- 3.1 Shut down procedure when the bomb is wired to the equipment.
 - 3.1.1 If the bomb's location is unknown it must be assumed it could be wired to the equipment.
 - 3.1.2 Do not turn on or off any electrical equipment or switches.

- 3.1.3 Before closing any valves inspect the valve and the tank to make sure no wires are connected from the bomb to the tank or valve.
- 3.2 Close the valve on the supply tank after verifying it is not connected to the bomb.
 - 3.2.1 Disconnect the hose from the tank and allow the pump to clear the line.
 - 3.2.2 Close the valve on the receiving tank and disconnect the hose after verifying it is not connected to the bomb.
 - 3.2.3 If using a diaphragm pump turn off the air supply after verifying it is not connected to the bomb.
- 3.2.4 Hook the end of the hoses so they are out of the way and are elevated at least 3' above the ground to prevent spills.

Appendix F Electrical Emergency

1 Electrical Emergency Procedure

The Electricity is supplied by Guyana Power and Light. The main power switches are located _____. Each building has its own breaker box. Note that this will be updated once the facility design with John Fernandes is approved.

2 Power Tools & Area Integrity

- 2.1 Before using power tools check the tool to make sure it is in safe operating condition. If there are deficiencies tag the tool out and do not use it.
 - 2.1.1. The power cord and plug must be in good condition.
 - 2.1.2. All switches must be working.
 - 2.1.3. All guards must be secured and working.
- 2.2 Check the area before using the power tool and make it safe before starting.

- 2.2.1 The work area must be dry and free of standing water.
- 2.2.2 There should not be any flammable material in the area.
- 2.2.3 Power tool should be used in a non-process area.

2.3 Power Tools Use in Process Areas

Before working with power tools in a process area a hot or cold work permit must be issued.

- 2.3.1 If the tool is not intrinsically safe.
- 2.3.2 If the tool will make sparks.
- 2.3.3 If the tool generates heat.

3 Electric Power Outage in Office Area

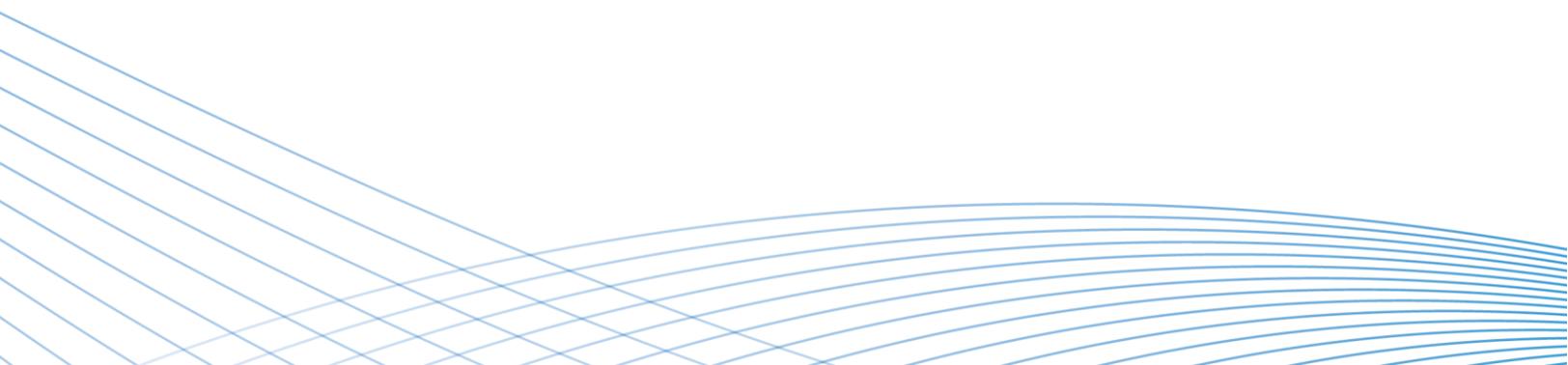
When there is a power outage you should immediately, stop what you are doing.

- 3.1 Turn off computer and other electric equipment.
- 3.2 Secure your area.
- 3.3 Proceed to an area that the exit is naturally lit.

4 Electric Power Outage in Process Area

When there is a power outage you should immediately, stop what you are doing and secure your area.

- 4.1 Turn off pumps, mixers, blowers and other electric equipment.
 - 4.1.1 Close all valves.
 - 4.1.2 Close the lids on the vats.
 - 4.1.3 Open ventilation valves all the way.
 - 4.1.4 Proceed to an area that the exit is naturally lit.



5 Down Power Lines

When a down power line has been found, observe the area from a safe distance to see if anyone has been injured or if the power line is electrifying any other objects.

- 5.1 DO NOT touch any thing that may be electrified
- 5.2 DO NOT touch anyone that way be electrified before the power source has been safely eliminated. Get emergency help.
- 5.3 Stay away from the power line and alert others of the hazard.
- 5.4 Block off the area with the down power line and anything that may be electrified.
- 5.5 Call the LFL electric department and inform them of the situation.

6 Electrical Shorts

If an electrical short occurs turn off the power at the switch and at the breaker or unplugging the equipment if it is portable. Tag out at the switch and breakers.

- 6.1 Observe the line and or equipment to make sure it is not burning internally.
 - 6.1.1 If the electrical short has created a fire or explosion risk leave the area and get help
- 6.2 Turn off the power at the main breaker.
- 6.3 Take Fire/Evacuation steps. See Appendix B of the Emergency Action Plan
- 6.4 Tag out the line and or equipment.

