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Global Petro-NEXUS Sdn. Bhd.
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NEXGEN Energy Solutions
Hydrocarbon sludge remediation and recovery technology platform

NO CURE NO PAY REPORT

Hydrocarbon Sludge Solutions

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INTRODUCTION

The oil and gas industry continues to face significant operational, environmental and financial challenges arising from the accumulation of hydrocarbon sludge in crude oil tanks, storage tanks, process vessels, pipelines, FPSOs, FSOs and refinery facilities.

Over time, hydrocarbons, waxes, paraffins, asphaltenes, sediments and other contaminants accumulate to form sludge deposits. These deposits reduce operational efficiency, decrease storage capacity, increase maintenance costs and create significant safety and environmental concerns.

Conventional sludge removal methods often involve extensive mechanical cleaning, high manpower requirements, prolonged shutdown periods and substantial waste disposal costs.

Recognising these challenges, Global Petro-NEXUS Sdn Bhd (GPN) has introduced the NEXGEN Hydrocarbon Sludge Remediation and Recovery Technology Platform, an innovative solution designed to transform sludge remediation from a cost centre into a value recovery opportunity.

NEXGEN combines advanced chemical science, engineering principles and practical industry experience to recover trapped hydrocarbons, reduce sludge volume and accelerate tank cleaning operations while maintaining high standards of safety and environmental compliance.

NEXGEN TECHNOLOGY PLATFORM

NEXGEN is a proprietary hydrocarbon sludge remediation and recovery technology specifically developed to address sludge accumulation problems throughout the petroleum value chain.



The technology is designed to:

- Soften hardened hydrocarbon sludge
- Reduce sludge viscosity
- Improve sludge mobility and pumpability
- Release trapped hydrocarbons within sludge matrices
- Facilitate hydrocarbon recovery
- Reduce sludge volume requiring disposal
- Accelerate tank cleaning activities
- Enhance operational safety
- Reduce overall remediation costs

The NEXGEN Technology Platform comprises specially formulated treatment solutions supported by engineering deployment methodologies, process monitoring and performance verification systems

TECHNOLOGY CREDIBILITY

Global Petro-NEXUS' confidence in NEXGEN is supported by extensive technical evaluation and validation activities.

LABORATORY TESTING

NEXGEN has undergone laboratory analysis and performance evaluations involving actual hydrocarbon sludge samples collected from industry operations.

The evaluations include:

- Viscosity analysis.
- Hydrocarbon recovery assessment.
- Sludge dissolution and softening assessment.
- Water separation characteristics
- Wax Appearance Temperature (WAT) analysis
- Pour Point evaluation
- API Gravity assessment
- Specific Gravity measurements
- Chemical compatibility studies

INDEPENDENT LABORATORY VERIFICATION

Testing and analytical work have been conducted through independent and recognised laboratory facilities, providing objective performance data and technical validation.

LABORATORY TESTING

-CONTINUE

INDUSTRY-BASED DEVELOPMENT

NEXGEN was developed through:

- Extensive research and development activities
- Review of petroleum engineering literature
- Hydrocarbon chemistry studies
- Field operational experience
- Benchmarking against industry practices
- Input from industry practitioners, engineers and academic experts

ACADEMIC AND TECHNICAL FOUNDATION

The technology is supported by multidisciplinary expertise involving:

- Petroleum Engineering
- Chemical Engineering
- Hydrocarbon Processing
- Fluid Dynamics
- Asset Integrity Management
- Environmental Management

This combination of scientific research and industry application provides a strong foundation for technology deployment.

EXPECTED BENEFITS OF NEXGEN

PERFORMANCE BENEFITS

A. Performance Benefits NEXGEN is expected to deliver:

- Significant sludge softening
- Improved sludge flow characteristics
- Enhanced hydrocarbon recovery
- Reduction in sludge volume
- Improved tank accessibility
- Improved operational efficiency
- Increased effective storage capacity

B. Time Benefits Compared with conventional methods, NEXGEN is expected to:

- Reduce remediation duration
- Accelerate tank turnaround schedules
- Reduce downtime
- Enable faster return-to-service
- Improve project completion efficiency

EXPECTED BENEFITS OF NEXGEN

-CONTINUE

PERFORMANCE BENEFITS

C. Cost Benefits NEXGEN offers potential savings through:

- Reduced manpower requirements
- Reduced mechanical cleaning activities
- Reduced waste transportation costs
- Reduced disposal costs
- Reduced tank downtime
- Recovery of valuable hydrocarbons
- Lower overall remediation expenditure

D. Safety Benefits Safety remains a primary consideration in all NEXGEN deployments. Potential safety improvements include:

- Reduced confined-space entry exposure
- Reduced manual cleaning activities
- Reduced worker exposure to hazardous materials
- Reduced equipment-related risks
- Improved operational control
- Improved compliance with HSE requirements

E. Environmental Benefits NEXGEN contributes towards sustainable operations by:

- Reducing waste generation
- Reducing sludge disposal requirements
- Recovering reusable hydrocarbons
- Supporting circular economy initiatives
- Reducing environmental footprint
- Supporting ESG objectives

NO CURE NO PAY (NCNP) ARRANGEMENT

Overview



Global Petro-NEXUS is sufficiently confident in the effectiveness of the NEXGEN Technology Platform to introduce a No Cure No Pay (NCNP) commercial arrangement. The NCNP approach demonstrates GPN's commitment to performance-based delivery and risk-sharing with clients.

Under this arrangement, commercial compensation is linked to the successful achievement of agreed performance targets. This significantly reduces the technical and commercial risk exposure of the asset owner.

OPERATIONAL DEFINITION OF “CURE”

For the purpose of the NCNP Programme, “Cure” means the successful achievement of mutually agreed performance criteria established before project commencement.

The exact KPIs may vary depending on the asset type, sludge condition and project objectives. However, Cure will generally be measured based on the following indicators:



PRIMARY CURE INDICATORS

- Hydrocarbon sludge becomes pumpable and transferable
- Significant sludge softening and breakdown is achieved
- Trapped hydrocarbons are successfully released and recovered
- Sludge volume is substantially reduced
- Tank conditions permit final cleaning activities
- Project objectives are achieved within the agreed treatment period

SECONDARY CURE INDICATORS

- Reduction in viscosity
- Improvement in hydrocarbon recovery rate
- Reduction in WAT
- Reduction in Pour Point
- Improvement in oil-water separation
- Reduction in waste volume
- Reduction in cleaning duration
- Reduction in operational costs

A photograph of a modern building at night, featuring large glass windows and a concrete facade. The interior lights are on, creating a warm glow. The building is set against a dark sky.

KPI MEASUREMENT AND VERIFICATION

Prior to commencement, GPN and the Client shall jointly establish:

- Baseline sludge conditions
- Initial sludge volume
- Sampling methodology
- Testing procedures
- Performance indicators
- Verification methodology
- Acceptance criteria

Performance verification may include:

- Laboratory testing
- Site inspections
- Visual assessment
- Sludge measurements
- Recovery volume calculations
- Operational observations

STRATEGIC VALUE OF THE NCNP PROGRAMME

The NCNP Programme represents a unique industry proposition where technology providers share performance risk with asset owners. This arrangement demonstrates **Global Petro-NEXUS'** confidence in **NEXGEN** and its commitment to delivering measurable operational, technical and commercial value.

The programme enables clients to evaluate and deploy **NEXGEN** with minimal risk while benefiting from improved hydrocarbon recovery, reduced waste generation, enhanced safety performance and lower overall remediation costs. Through this innovative performance-based approach, **NEXGEN** positions itself as a breakthrough technology platform capable of transforming hydrocarbon sludge remediation into a safer, faster, more economical and environmentally responsible process.