COMPANY BACKGROUND

NANA WorleyParsons is a project delivery company focused on multi-discipline engineering and design, procurement and construction management services for the Hydrocarbons, Power, Minerals and Metals, and Infrastructure and Environment industries.

Based in Alaska, our staff of project managers, engineers, designers and support personnel work in Anchorage, Kenai and client field operation facilities on the North Slope. Their extensive technical expertise in Arctic and Sub-Arctic engineering for remote locations is at the core of NANA WorleyParsons. Staff experience is backed by real-world success on projects often located in harsh and remote environments.

We provide services for projects from conceptual development through construction, project start up and support operations, covering all phases of a project lifecycle. Each project solution is tailored to meet the specific needs of the client.

Services:
- Multi-discipline engineering and design
- Procurement
- Project/Construction management services

Sectors:
- Hydrocarbons
- Power
- Minerals and Metals
- Infrastructure and Environment

For more information on the capabilities and services we provide, go online to www.nanaworleyparsons.com or email us at info@nanaworleyparsons.com.

OWNERSHIP

NANA WorleyParsons, a limited liability company, is jointly owned through a 50/50 partnership between Alaska-based NANA Development Corporation and Australia-based WorleyParsons, LTD.

NANA Development Corporation

NANA is one of 13 regional corporations formed under the Alaska Native Claims Settlement Act (ANCSA). NANA’s five business lines encompass a wide cross-section of industries including engineering and construction; resource development; information technology and telecommunications; facilities management and logistics; and real estate and hotel development.

WorleyParsons

WorleyParsons is a leading provider of professional services to the energy, resources and complex processes industries; customizing their services for the Hydrocarbons, Minerals and Metals, Infrastructure and Power sectors throughout the world. WorleyParsons global engineering enterprise works in 37 countries with over 30,000 personnel.
INTEGRATED LIFE AND ASSET PROTECTION

NANA WorleyParsons is a leader in integrated life and asset protection. Our Fire and Gas group provides comprehensive hazard reduction to meet customer needs in a timely and cost effective manner.

Our Fire and Gas group is managed as its own business unit, providing specialized service as an integral part of a Project Team or as a stand alone service with embedded Project Management. This group’s dedicated and diverse staff delivers the complete life cycle of protection including:

- System planning and design philosophy
- System feasibility
- Technology upgrades
- Permitting assurance
- Conceptual, preliminary and detailed design
- Procurement
- Construction support
- Operations and maintenance support

Services

Our services include:

- Planning and Permitting
- Detection
- Control Systems Integration
- Hazard Mitigation

Developed overall fire and life safety systems philosophy to ensure applicable codes, standards, specifications and recommended practices was incorporated. Provided fire and life safety systems engineering, design/drafting, and technical and administrative assistance for detection and suppression systems in ten processing modules. Building and fire systems permitting were a particular challenge due to the project’s complexity. Staff worked closely with the Authorities Having Jurisdiction (AHJ) to maintain timely permit approval.
Project Name: Pipeline and Infrastructure Replacement

Phases:

Provided engineering and design services for integrated fire and life safety systems for new and existing modules. This included fire and gas detection, new Det-Tronics® control panels and both gaseous and fine water mist suppression. Proper incorporation of the new technology with existing infrastructure was crucial to a complete integration. Numerous facilities and modifications made the permitting process complex. A well developed permitting strategy was key to meeting project deadlines.

CAPABILITY OVERVIEW

Planning and Permitting

Rigorous front end planning assures that solutions are code compliant, timely and cost effective, while providing the appropriate level of hazard mitigation for the project. Our staff is well-versed in the processes involved with obtaining the variety of building and fire permits needed for projects of any size.

Our planning and permitting services include:

- Fire hazard analysis
- Risk assessment
- Design philosophy
- Code analysis and compliance studies
- Permitting strategy development
- Code compliance assurance and strategy
- Building and fire system approval support
- Basic system analysis and technology upgrades plan
- Emergency evacuation and fire safety plans
- Fire and emergency response planning
Detection

Our staff is experienced in the selection of the appropriate detection technology. We develop innovative solutions to meet harsh environmental conditions. In addition, we provide technical input to industry vendors in order to assure reliable operation in the field.

Our Detection services include:

- Fire
- Smoke
- Hydrocarbon
- Hydrogen Sulfide (H2S)
- Hydrogen
- Thermal
- Linear
- Oxygen

Project Name: Oil and Gas Processing Facility

Phases: 1 2 3 4 5

Provided engineering and design services to incorporate the removal of existing antiquated fire and life safety systems and their replacement with newer technology. AE Solutions™ technology provided the platform to integrate the fire and life safety systems with other automation and control systems within the processing facilities.
**Project Name:** HVAC Inlet Duct Gas Protection

**Phases:** 1 2 3 4 5

Provided engineering and design for the addition of inlet duct gas detection in ventilation intake ducts on forty hydrocarbon processing facilities. Both Spectrex open path and Det-Tronics® point to point gas detection systems were integrated with existing or new fire alarm control panels and programmable logic controllers (PLC’s) to control HVAC, suppression and plant shutdown.
Hazard Mitigation

NANA WorleyParsons brings world-class expertise in hazard mitigation technologies. Our experience in emerging suppression technology and processes sets us apart. We can provide the appropriate response to mitigate any fire or gas hazard, large or small.

Our Hazard Mitigation services include:

- **Notification**
  - Local and remote
  - Visual
  - Audible
- **Hazard controls**
  - Isolation
  - HVAC controls
  - Ventilate, purge, pressurize
- **Suppression**
  - Fine water mist (high and low pressure)
  - Deluge
  - FE-13™
  - DuPont™ FM-200®
  - Wet/dry sprinklers
  - Foam
  - Dry chemical
  - Halon modifications/replacement
  - Fixed and portable systems
  - Single hazard/local area application
  - Fire water pumps and controllers
  - Fire water systems

**Project Name:** Processing Facility Automation Fire and Gas Upgrade

**Phases:** 1 2 3 4 5

Performed fire hazard analysis of facility and developed a design philosophy to achieve compliance and solutions to meet customer’s needs. Provided engineering services to produce a detailed design to procure and install new fire and life safety systems for three main production modules. This is the first phase of a multi-phase project and incorporates a new Honeywell Safety Manager™ system that ensures the integration of control systems and detection systems will be maximized.
ADDITIONAL PROJECTS

Our integrated life and asset protection experience comes from work in a variety of customer sectors such as hydrocarbons and power.

**Project Name:** Grinding and Injection Module  
**Phases:** 1 2 3 4 5

Performed fire hazard analysis and developed a complete design philosophy based on multi-function occupancy. Provided detailed engineering and design work to properly incorporate fire and gas detection throughout the facility. This work includes engineering and design for Ansul® foam suppression systems in critical hazardous areas. The team worked closely with the client, and state and local authorities to ensure code compliance through the plan review and permitting process.

**Project Name:** Natural Gas Compressor Module  
**Phases:** 1 2 3 4 5

Multi-discipline project requiring engineering and design coordination in several areas. The code compliance and permitting process was critical to ensure proper levels of fire and gas detection were provided and that integration with other process systems was fully accomplished. The attention to detail provided during the code compliance and permitting process ensured a quality and cost effective project.

**Project Name:** Cogeneration Facility  
**Phases:** 1 2 3 4 5

Three phase project to upgrade and reconfigure an existing power generation facility. This project included relocation of an existing gas detection system, relocation and expansion of an underground firewater system and detailed engineering and design for the addition of a water treatment facility. The building permit process resulted in permit approval and on time construction completion.
CUSTOMIZED SOLUTIONS

For over a decade, NANA WorleyParsons has been a leader in Fire and Gas integrated life and asset protection solutions in remote, harsh environments.

From the creation of a fire hazard analysis during conceptual project development to assessment of existing facilities for new technology applications, NANA WorleyParsons provides safe, sustainable solutions customized to the customer’s integrated life and asset protection needs.

To help guarantee successful project outcomes, NANA WorleyParsons employs the proven processes of WorleyParsons project delivery across all phases of the project. In each of these phases, we understand the critical issues and apply our specialist business lines, Select, Deliver and Improve, to enable our customers to achieve their business objectives. Along with project systems that are fully aligned with this philosophy, this phased approach allows for consistent project delivery worldwide.

Value Add Initiatives

EcoNomics™ Delivering profitable sustainability

EcoNomics is our range of services and technologies that profitably embed environmental, social and financial sustainability into project delivery, across the asset lifecycle.

OneWay™

Zero Harm is our corporate vision for health, safety and the environment (HSE). We are committed to our vision; it applies to all of our operations, at all times, in all locations, and all levels of responsibility.
PROVEN SYSTEMS AND RESOURCES

From technically experienced and dedicated staff to our standardized systems, the pieces come together as one to provide quality project delivery to our clients.

NANA WorleyParsons utilizes WorleyParsons work processes including WorleyParsons Project Management Process (WPMP) and Enterprise Management System (EMS). We have also developed engineering and design standards that complement specific customer requirements. Quality is assured through proven project management practices including a thorough checking procedure.

Our Fire and Gas staff has a full range of expertise from diverse backgrounds such as fire and safety prevention, telecommunications, power generation, code enforcement and regulation. The staff includes dedicated project managers; fire protection, electrical, instrumentation and mechanical engineers; fire protection specialists, designers and drafters. They are up-to-date on emerging technologies, best practices and compliance issues through membership and involvement in the following professional organizations:

- Underwriters Laboratories Fire Council
- International Code Council Fire Code Interpretation Committee
- 2009 International Building Code Development Committee
- 2009 International Fire Code Development Committee
- International Code Council
- National Fire Protection Association
- National Association of State Fire Marshals

In addition, staff are factory-trained on or experienced in all major fire and gas control systems equipment.
WHY NANA WORLEYPARSONS?

1. **Single discipline focus.**
   Our experienced staff comes from diverse engineering and design backgrounds with respective degrees and certifications. They have chosen to apply that experience to the field of fire and gas protection. We believe that systems are so inter-related that it is difficult to address a comprehensive fire and life safety system utilizing disconnected engineering disciplines. We are one business unit with one focus.

2. **Integrated holistic approach.**
   Whether it is fire detection and annunciation or gas detection and HVAC control, our engineering and design experts evaluate all processes involved and design an integrated system to mitigate the identified hazards.

3. **Experienced staff.**
   We have licensed electrical, instrumentation, mechanical, civil and fire protection engineers; certified fire protection specialists; project management professionals (PMP); and certified NICET technicians within our business unit. Their individual experience is integrated as needed on a project basis.

4. **Factory-trained staff.**
   Our staff receives factory level training in various fire and life safety systems and devices, including Honeywell, DetTronics® and Pyrotronics.

5. **Sustainability.**
   NANA WorleyParsons believes that sustainability is a key component to project delivery. Our team strives to minimize environmental, economic, and social impact with the solutions we provide to our clients.
For more information, contact Business Development at:

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