

## **Abstract**

The Navajo Nation Fire Department (NNFD) is requesting \$306,432 from the DHS-Assistance to Firefighting Grant Program for the acquisition of a tanker/pumper combination fire truck, which will be used to supplement a small fleet of fire trucks. Currently, the NNFD has only six (6) fire stations serving six (6) major growth communities (District) within the Navajo Nation. At each district only one fire truck is assigned and if that one fire truck goes in for repair service or is called out for an incident, that community is left without fire protection. Because each community protected by the NNFD has only one fire truck, we are unable to provide mutual aid assistance to other communities and entities (i.e. Hopi Nation, County and BIA Fire Departments, etc.). Navajo Nation is very rural, remote and isolated and has some pretty concernable hazards, such as; forest lands, natural gas pipelines, oil fields, interstate and other major highways, coalmines, and a lack of municipal water systems. This tanker/pumper if awarded will be used to address these areas of concern by having the ability to transport large quantities of water (3,000 gallons) for our own organization or for mutual aid responses, and to suppress larger fires with either class "A" or "B" foam.

## **About the Navajo Nation**

The Navajo (Indian Reservation) Nation is the largest federally recognized Indian tribe in the United States. Its land base is over 27,000 square miles and extends into the States of Arizona, Utah and New Mexico. The Navajo Nation is larger than 10 of the 50 states in the United States, as such much of its land base is very remote and isolated.

According to the 2000 U.S. Census, there are 180,000 residents residing on Navajo Nation tribal land, 168,000 are Navajo enrolled members, with the remaining being non-members who reside and work within the Navajo Nation.

The Navajo Nation is also endowed with vast reserves of coal, uranium, oil, and natural gas. Peabody Coal, Black Mesa, and Pittsburgh and Midway (P&M) Coal Company mine 23 million tons per year. Oil wells produced 6.1 million barrels in 1991, while natural gas productions totaled 4.5 million MCF.

## **Scope of Work**

The NNFD is a mutli-service provider responding to over 1,500 calls per year. The department provides fire, rescue, EMS (first response) and hazardous materials response and mitigation.

Services are provided from six (6) fire stations located within the major growth communities of the Navajo Nation. From each fire station their exists a minimum of one fire truck (1250 gpm/1000 gallon) and one rescue unit (non-pumper). A station may have an additional fire truck, a tanker, a ladder or an ambulance. Total, the NNFD has 7 pumpers (500 to 1000 gallons), one tanker (1500 gallons) and 1 75' ladder.

Although the Navajo Nation has a large population base, the NNFD does not provide coverage to the whole population. As previously noted, the Department of Fire & Rescue Services only services the major growth communities (six in all). Other fire departments, such as the Bureau of Indian Affairs (BIA), Township Fire Departments, and a County Fire District cover other areas of the Navajo Nation not protected by the Department of Fire & Rescue Services. For

Navajo Nation land in New Mexico and Utah, fire protection is provided by the County's (i.e. San Juan County) of those states, and no NNFDs exist. For this reason, the population we serve is much less than the population provided by the 2000 Census.

Although the NNFD does not protect all areas of the Navajo Nation, it still has oversight and total responsibility to the protection of life, property and the environment within the Navajo Nation. As such, our organization must be equipped to address a wide range of hazards present within the Navajo Nation.

Within the Navajo Nation, there exist oil and natural gas pipelines and refinery stations, along with conventional hazards such as gasoline, service and propane stations, and highway transportation of flammable and combustible liquids and gases. Of particular concern to the Navajo Nation are the El Paso and Trans-Western Natural Gas Pipeline, Burlington Northern Santa Fe (BNSF) railroad, Interstate (I-40) Highway (as well as local highways that carry flammable and combustible liquids), Coal Mines (P&M, Black Mesa and Peabody), Generating Stations (Navajo Generating Station) and oil fields in northern Navajo Nation (Aneth Oil Fields).

### **Problem Statement**

The NNFD has the following fire apparatus (vehicles with water and pumps) in the following six (6) fire stations throughout the Navajo Nation:

#### Window Rock Fire Station (District) -

Engine 10 - 1991 Quality pumper 1200 gpm/1000 gallon on Chevy Kodiak chassis.

Ladder 1 (donated) - 1977 LTI 100-gpm/300 gallon on a Ford 8000 Custom-Cab Chassis.

#### Fort Defiance Fire Station (District) -

Tanker 16 - a 1992 Quality pumper 1250 gpm/1500 gallon built on a Chevy Kodiak chassis.

Engine 312 (donated) - 1974 Ford Boardman with a 750-gpm/500 gallon water tank. (at time of writing this narrative, this apparatus was out of service, and has been out of service for a year, however continues to be stored at this fire station).

#### Chinle Fire Station (District) -

Engine 50 - 1991 Quality pumper 1200 gpm/1000 gallon on Chevy Kodiak

#### Tuba City Fire Station (District) -

Engine 40 - 1991 Quality pumper 1200 gpm/1000 gallon on Chevy Kodiak

Engine 311 - 1988 Quality pumper 500-gpm/500 gallon built on a 4 x 4 Chevy chassis (at time of writing this narrative, this apparatus was receiving major engine work and was utilized as a reserve/float/fire academy assigned apparatus).

#### Indian Wells Fire Station (District) -

Engine 70 - 1991 Quality pumper 1200 gpm/1000 gallon on Chevy Kodiak

#### Leupp Fire Station (District) -

Engine 80 - 1988 Brigadier 750-gpm/500 gallon on a Chevy 4 x 4 Chassis.

Problem #1 – If the fire truck goes out, there is no fire protection.

At each fire station, there literally exists only one fire truck. These fire trucks were purchased (or donated) in 1991 or early, and are now exceeding 15 years of service. Currently, we are having more and more problems with them, from the engine and drive train to the fire pump themselves. Remember, there is only one fire truck per station (or district). If that fire truck goes down for service/repairs or a major incident within its own service area or to assist another

agency, then the community is without fire protection. Any major mechanical problems with any single fire truck will immediately leave a community in risk.

**Problem #2 - Limited water supply.**

Many of the non-NNFDs (i.e. BIA, Townships, etc.) have similar problems of inadequate water supplies and fire suppression capabilities. On a typical residential structure fire (depending on the progression of the fire), the fire truck may need to leave the scene a number of times to refill the fire truck. Depending on the location of the structure (the Navajo Nation is a very rural community), fire apparatus may have to travel up to 30 miles to the nearest water source. If mutual aid agencies don't respond, because they are volunteer agencies and don't have the manpower to do so, which is often the case, our organization can expect to come back to a bigger fire due to the time it took to refill the fire truck with water.

**Problem #3 – Foam and Water Inadequacies.**

All fire apparatus have no compressed air foam system (CAFS) or in-line proportioning systems to help increase the extinguishing capacity of water. For foam application, fire service personnel must connect inline foam inductors to the attack line to flow foam. During major incidents requiring the use of foam (i.e. highway tanker, airplane or rail car fire), firefighters will be limited in water and foam capacity. This is because current fire apparatus only carry 1,000 gallons of water, 25 gallons of foam concentrate and there are hardly any hydrants in the Navajo Nation and many of the lakes and windmills can be anywhere from 1 to 50 miles away.

**Problem #4 – Unable to assist other agencies, even our own.**

As previously mentioned, because our organization has literally only one fire truck per district, we are unable to provide mutual aid to other agencies, including the Hopi Nation. To send our only fire truck out would place our own community at risk and increase the liability of the Navajo Nation. Having another apparatus, such as the one we are requesting for, will allow us to assist other agencies (as well as our own) to suppress fires quickly and efficiently.

### **Solution Statement to Problem**

To address problems 1 through 4, the NNFD is requesting funding from the Assistance to Firefighting Grant Program for the acquisition of a tanker/pumper combination fire truck. Our organization would like to acquire a 3000 gallon 1500 gpm foam pump tanker with a 2500 - 3000 gallon drop down portable collapsible tank, 50 gallon class "A" and "B" foam cells, ladders and hard suction hose in a commercial four door cab chassis. This truck will be spec'ed and built to current NFPA 1901 Standards.

The NNFD will station this tanker/pumper in central Navajo Nation (Chinle, Arizona). Having this tanker/pumper stationed centrally within the Navajo Nation will allow its use for a multitude of agencies, include the Hopi Fire Department, a number of Township and Bureau of Indian Affairs Fire Departments, a County Fire District and our own department.

This tanker/pumper will also be in the position to protect critical infrastructures, including the Navajo Nation forest, Dine' (Navajo) Community College (one of the two four story buildings within the Navajo Nation) two natural gas pipelines (El Paso and TransWestern), oil fields, and two (2) major highways within the Navajo Nation.

Furthermore, if our organization needs to send a district's fire truck out for repairs or testing, then the organization will have a reserve fire truck to send the district. In essence, our community can remain protected if a fire truck goes down.

### **Funding Budget**

Based on our needs, the NNFD conducted a little research and found a similar tanker/pumper advertised in one of the fire service magazine and contacted the vendor to obtain a general cost of the tanker/pumper combination. The amount provided was between \$260,000 to \$270,000. Based on this amount, our organization is requesting \$340,480.00 (\$280,000 for truck and 21.6% for indirect cost) from the Assistance to Firefighting Grant Program to purchase this tanker/pumper.

### **Organizational Budget**

The NNFD is funded by the Navajo Nation Government under its general fund budget, which is a competitive pool budget. Services provided by the NNFD are done on a very small budget of \$720,279.83 for FY2006.

Personnel Expenses	\$456,901.17
Travel (Vehicle Mileage/Rental)	\$104,648.40
Supplies (Office/Janitorial, etc.)	\$61,445.43
Lease/Rental	\$1,240.00
Communication/Utilities	\$12,500.00
Repairs/Maintenance	\$22,000.00
Contractual Service (Training/Instructor Fees, etc.)	\$21,500.00
Special Transactions (Insurance Premiums/Professional Dues)	\$25,258.00
Matching Funds	\$14,786.63

As one can see, our budget is limited and has to accommodate 6 fire stations, 9 apparatus (7 pumpers, one 1500 gallon tanker, one ladder), 6 rescues, 1 ambulances, 46 volunteer firefighters and 12 paid staff (7 firefighters, two captains, one fire chief and two office staff), not leaving any room for apparatus purchase, including lease to own options.

### **NIMS Compliance**

Pursuant to HSPD-5, the development and utilization of the National Incident Management System (NIMS) the DF&RS is utilizing the Incident Command System (ICS) as its command and management tool, and have trained all first line supervisors and upper management in NIMS (I-700) and the ICS series (IS100, 200, 300 and 400). A number of personnel have also completed the independent study of I-800 - National Response Plan. Training in these areas continue to be ongoing.

Secondly, the DF&RS is working with the Bureau of Indian Affairs (BIA) to establish its own "red card" system to input resources into the Shared Application Computer System (SACS). Currently, personnel are being entered into the SACS system under the BIA.

Thirdly, memorandums of agreements are being entered between other fire service organization to address scene management, resource allocation and multi-jurisdictional issues.

Lastly, the DF&S is pursuing grants to upgrade its communication infrastructure and to address radio interoperability. This project is aimed at addressing the inadequacies of communications and information management within the Navajo Nation, and more specifically the Department of Fire & Rescue Services.

### **Closing**

The NNFD is in need of new fire apparatus, not only to replace older ones but to also supplement existing ones. We cannot however do this due to the cost associated with purchasing new fire trucks, especially to address our needs. By having this tanker/pumper, our organization will be able to help other departments as well as ourselves in performing our duties and mitigating emergencies that may occur within the Navajo Nation. Without this truck, our department will continue to be unprotected during times when one fire truck goes out for service or on calls. Having one fire truck per community is an issue we need to address, and addressing this issue we are through this grant process. It is hoped that with the acquisition of another fire truck, we can increase the level of protection within the Navajo Nation and hopefully show our political officials that fire protection should be a priority and taken seriously.