

Improving Mobile Seismic Crews HSSE Performance

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ABSTRACT

Increased levels of field activity on high productivity seismic field crews have prompted Saudi Aramco to use improved Health Safety Security and Environmental (HSSE) management system processes, oversight monitoring methods, and components. These processes have allowed Saudi Aramco to meet the challenges of the increase in HSSE exposure levels. Saudi Aramco uses world-class seismic contractors to provide several continuously operating seismic crews that acquire data country-wide in a number of challenging and remote terrains and environments. The high channel count crews typically range in size between 700 to 1000 men and use +/- 200 vehicles to constantly move and maintain large amounts of line equipment on a 24/7 basis. These multi-national crews are normally on long term contracts and benefit from a low turnover of personnel. Leveraging of the seismic contractors' world-class HSSE management systems that are built on international experience and visibility is aided by the Saudi Aramco system of pre-qualifications, bi-annual field audits, continuous inspections and supervision of each crew. These audits identify "Best Practices" as well as areas for improvement. Auditing of existing components and use of pro-active root-cause analysis processes to look for missing management system components is an effective method of improving HSSE management systems. Additional controls in place include improved field work procedures and components. Due to driving being the highest risk, field Journey Management procedures have been improved and audited to ensure desired performance and results. Various methods of collecting driver performance data are used to measure driver behavior and to guide behavior based safety training. To significantly minimize the environmental foot print left by the large seismic field camps, strict environmental controls are employed such as mandatory usage of mobile sewage treatment plants, site inspections and documentation before and after field use. In addition to enhanced clinic resources, air medivac resources are made available for remote areas where response times to medical emergencies can be excessive. In very remote areas, an aircraft is stationed on-site for reduced response times. This aircraft is available for medivac, and air search-and-rescue purposes. The stakes are higher in terms of HSSE exposure with use of high productivity field methods, and as a result, the HSSE performance must be raised to meet the higher stakes.