FIRE INVESTIGATION
REPORT

DATE OF ORIGINAL INCIDENT:
8/6/07

LOCATION:
Greater Prudhoe Bay
British Petroleum
Gathering Center 1 (GC1)

DATE OF SITE VISIT:
9/14/07

Description of original incident:
K-3300 lube oil hose failure resulting in fire in turbine enclosure.

Events during incident:
GC1 facility mechanic was investigating a lube oil leak inside the KGTRB 513304 Gas Turbine enclosure that was reported on the evening of 8/5/07. During his inspection on the morning of 8/6/07 a hose leak developed spraying oil onto the hot end of the turbine. The mechanic observed a white smoke develop and immediately left the enclosure through the closest man door observing fire generation behind him. He then proceeded through a second man door to the outside of the building. The mechanic immediately announced over the radio system that a fire had started in the KGTRB 513304 Gas Turbine enclosure. The area operator received the radio transmission and proceeded to the module control room where he activated the bypassed UV detectors. The halon system operated as designed and extinguished the fire. All personnel responded to the appropriate safe area and were accounted for.

Post incident:
It was determined through onsite investigation that the cause of the hose leak was due to improper routing of hoses located beneath the turbine. The improper routing allowed chafing to take place creating a weak point in a hose that eventually burst.

It was also determined that the ultra-violet flame detectors within the module were the only means of automated detection and had been bypassed due to corrosion testing taking place within the immediate vicinity. The procedure for bypassing these detectors is common practice since the detectors within the module are susceptible to frequencies resulting from the corrosion testing that could create a false alarm condition and inadvertently dump the halon system.

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Reactivation of these detectors by the area operator is what caused the halon system to activate and suppress the fire. The halon suppression system itself was at no point disabled. It was noted that the route that which the mechanic took to evacuate the area, two separate locations providing an opportunity for manual activation of the halon system were passed by the mechanic.

Post incident investigation of the ventilation system by onsite personnel showed that even though the system was in need of cleaning the ventilation system operated as designed.

Results from incident:

Standard for turbine auxiliary equipment (hoses) integrity verification is being developed.

Records for fire system maintenance have been requested from BP.

Records for ventilation system maintenance have been requested from BP.

Plan of facility and fire system familiarization for all employees and contractors needs to be developed and implemented.

Fire detection systems need to be upgraded at all facilities to a level of technology that will prevent the need of bypassing detection due to outside interferences.

Develop schedule of area wide corrosion testing to minimize bypassing of ultra-violet detectors.

Standoff brackets have been developed and installed on hose assemblies beneath turbines to prevent same result in the future. This is being done as a standard at all locations.

Conclusion:
It is determined that this incident is the result of an equipment failure due to improper installation of accessory equipment and that actions to prevent a similar occurrence in the future have been implemented.

Further action may result dependent on receipt of requested documentation.