

PRELIMINARY

FIVE WHY INVESTIGATION

HP & LP FLARE IGNITION FAILURE

Facility (Leviathan/Tamar/AOT):	Leviathan	Operator Name:	NBL
Doc Number:	LPP-OP-NEM-OPS-RPT-0059	TAG Number:	[תיוג ציוד]
Start Date:	October-17-2020	End Date:	October-17-2020
Start Time:	[סוד מסחרי]	End Time:	
Total Duration of Event [hh:mm]:	[סוד מסחרי]		
Describe the failure	On Saturday, October 17, 2020 at [סוד מסחרי] the lead cook activated a fire alarm hand station [תיוג ציוד] and triggered a confirmed fire alarm in the living quarters [תיוג ציוד]. Per Cause & Effects, a confirmed fire in the living quarters initiated an [רכיב] of the platform at [סוד מסחרי]. (See: LPP-OP-NEM-OPS-RPT-0058 for additional information.) At [סוד מסחרי] the [רכיב] confirmed closed. After initiation of the [רכיב], the [מתקנים על האסדה] did not appear lit. [מתקנים על האסדה] and historical data of the status of the flare tips showed all [מערכת] to be lit prior to initiation of [רכיב]. The actual status of the [מערכת], according to [רכיבים ומערכות על האסדה], show [מערכת] at this time. At [סוד מסחרי], the LPP OIM made an announcement to proceed to the secondary muster location [מתקן] and that this was not a drill. [סוד מסחרי] At [סוד מסחרי] a response team was dispatched. Two team members proceeded to sweep the living quarters and two additional team members responded to the fire in the galley. The response team confirmed the fire was present, reported a confirmed fire to the team lead, and proceeded to extinguish the fire. The response team removed the flaming pot from the stove. The response team also isolated the stove, ensuring the area had been de-energized. At [סוד מסחרי] the muster officer confirmed a full muster at the secondary muster location. At [סוד מסחרי], a second response team confirmed the fire was extinguished in the galley and the OIM was notified that the area was secure. The second response team proceeded to ventilate the galley. At [סוד מסחרי] [תיוג ציוד] confirmed closed. At [סוד מסחרי], the LPP topsides were completely blown down.		

	At [מידע אודות מתקנים על האסדה] the LP flare appeared out with [סוד מסחרי] [מתקן על האסדה] At [מידע אודות מתקנים על האסדה] the [מתקן על האסדה] going to [סוד מסחרי] At [סוד מסחרי] the [מתקן על האסדה] for the emergency power generators was closed. Power and ventilation for the [מתקן] was restored. [מתקן על האסדה] were returned to service. [מתקן על האסדה] showed flare [מתקן] return to normal status. At [סוד מסחרי] the OIM stood down the muster and convened all personnel in the galley main hall with the kitchen isolated. At [סוד מסחרי] equalization around the [מתקן] was complete and [מתקן] were opened. By [סוד מסחרי], the LPP Control Room began trying to ramp up starting with [מתקן על האסדה] At [סוד מסחרי] the [מידע אודות מתקנים על האסדה] (see Figure 8 below). At [סוד מסחרי] all [מתקן] confirmed closed. By [סוד מסחרי] the LPP had returned to target nominations. At [סוד מסחרי] on [המידע מהווה סוד מסחרי] the residual [מתקן] was visually confirmed out.
Describe any bodily injuries	None
Describe any property damage	None
Describe any reduction or interruption in production	[המידע מהווה סוד מסחרי]
Corrective Work Order:	None
Expected Return to Work (Production/Drilling/Infrastructure):	N/A
Technician Name:	[שם עובד]

{note1}

The duration of the flaring event is calculated from [ריכיב] initiation to closing of [מתקן]. After the event was concluded, residual gas that was present in the [מתקן] was combusted in the flares [המידע מהווה סוד מסחרי]

In Case of Flaring			
HP Flare		LP Flare	
Volume of gas sent to flare [mmscf]	Duration [minutes]	Volume of Gas sent to flare [mmscf]	Duration [minutes]
[סוד מסחרי]	[סוד מסחרי]	[סוד מסחרי]	[סוד מסחרי]

Other Potential Environmental Impacts	
Discharge Quantity	None
Hydrocarbon Spill Quantity	None
Hazardous Material Spill Quantity	None

	Root Cause/ Five Why	Notes/Comments
LP & HP Ignition Failure		
Why 1	Following the [רכיב] of the platform, why did the HP and LP flares not ignite?	Activation of manual fire hand station [תיוג ציוד] in the galley triggered a confirmed fire alarm in the living quarters [תיוג ציוד]. Per Cause & Effects, a confirmed fire in the Living Quarters initiated an [רכיב] of the platform. Following initiation of [רכיב], process gas on the platform was sent to the [מידע אודות רכיבים ומתקנים על האסדה]. Immediately following the arrival of gas to the [ציוד], the [ציוד] went into alarm and were later visually confirmed out.
Why 2	Why did the HP and LP [ציוד] go out?	Additional investigation is required at this time to determine the root cause of why the HP and LP [ציוד] went out.

This incident is to be considered as a Level 1 incident in the NEML OMS Element 11 risk matrix.

Short Term Actions:			
1.	Troubleshoot and relight [ציוד על האסדה]	Complete	
	Action Party: Operations	Due Date:	Oct-17-2020
2.	Perform visual inspection and maintenance of [ציוד על האסדה] and [ציוד] during scheduled facility shutdown and maintenance starting Nov 5th, 2020.		
	Action Party: [סוד מסחר]	Due Date:	Nov-15-2020
3.			
	Action Party:	Due Date:	
4.			
	Action Party:	Due Date:	

NOTE: To be completed by Supervisor

Proposed Action to Prevent Recurrence:				
Options	Instruction	Required (Y/N)	Reference Number	
Investigate	Conduct additional investigation into root cause of ignition failure.	Y		
Investigate	Perform visual inspection and maintenance of [ציוד על האסדה] [ציוד על האסדה] during scheduled facility shutdown and maintenance starting Nov 5 th , 2020.	Y		
Investigate	Investigate [מידע אודות מתקנים על האסדה]	Y		
Initiate Change				
Change Operational Procedure/Instructions				
Other				
Supervisor/Operator Name:	[שם עובד]		Date:	Oct-18-2020

Personnel Involved in Completing Investigation			
Crew Member	Position		
Author of Report:	[שם עובד]	Date:	Oct-18-2020
Approver of Report:	[שם עובד]	Date:	Oct-18-2020
Contact Info.:			

[מידע אודות מתקנים וציוד על האסדה]

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