

CONCEPT TO COMMERCIAL IN 87 DAYS - TRIDENT® FB

JIP TO CREATE NEW 30" CONDUCTOR CUT & PROVE SPEAR

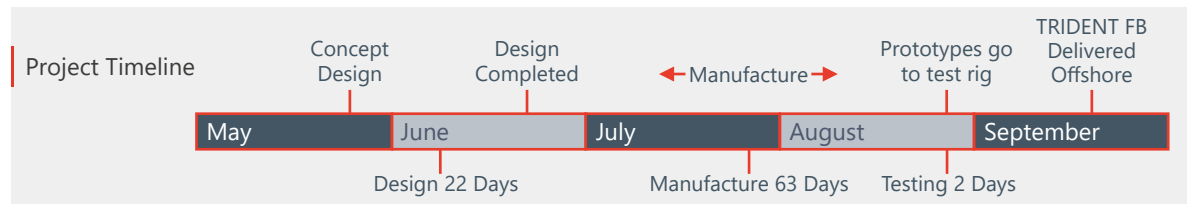


THE OPERATION

A Major North Sea Operator was looking for an alternative to current 30" spear tools available on the market, Ardyne proposed a new design to overcome known field problems and deliver the reliability required for the client's offshore decommissioning project.

From this the Ardyne TRIDENT FB was initiated. Beginning on 22nd May the concept design commenced, followed swiftly by the manufacturing of two prototypes in June. Manufacturing was complete in late August, with the two newly developed systems moved to a test rig where various function tests were conducted. Over the course of two days the newly designed slips on the conductor spear were tested, along with a successful test cut on a 30" conductor.

Slips test
CLICK TO WATCH

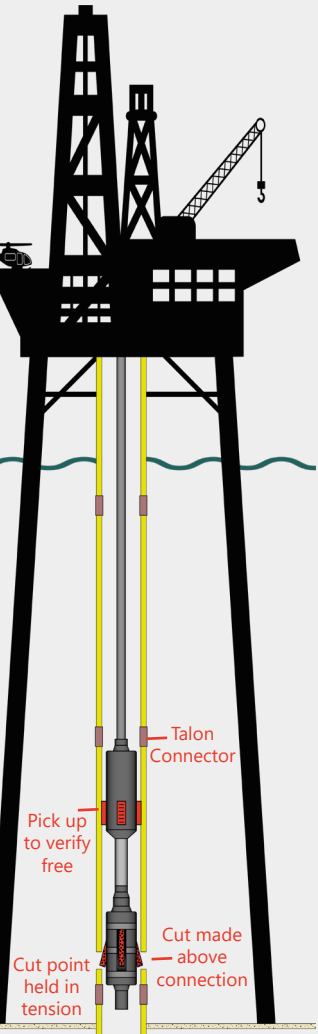


After 87 days, the two fully functional systems were delivered offshore to the client. Both TRIDENT FB Systems remained on the rig and completed the full 24 well program. The newly developed systems were serviced only after the entire program was complete & the BHA's returned to Ardyne's service base in Aberdeen.

Typical Operating Procedure

1. RIH and space out cutter at cut depth
2. Activate anchor by flowing and 50Klbs overpull
3. Rotate drill pipe and increase flowrate to activate casing cutter
4. Casing cut, stop rotation and verify free by overpull
5. Release anchor by downward movement without pumping
6. POOH to top of conductor and recover casing or rack back BHA

Conductors requiring
removal for P&A campaign



24 CONDUCTORS CUT - AVERAGING 25 MINUTES EACH

95 MINUTES SAVED PER WELL, GENERATING 38 HOURS TOTAL SAVINGS, WHEN COMPARED TO OTHER SERVICE COMPANY



Ardyne Cutting Time Performance														Performance Highlights	
Well No.	07	08	21	09	20	23	04	16	14	28	01	02	27	<ul style="list-style-type: none">• 18 wells completed by one tool without re-dress• Average cut time = 25 minutes• Zero issues setting spear	
Anchor & Cut	0.75	0.50	0.75	0.75	0.75	1.00	0.50	0.75	1.15	0.50	0.75	1.00	0.50		
Conductor Cutting time	20 min	20 min	28 min	13 min	28 min	30 min	15 min	16 mins	75 min	17 min	21 min	31 min	10 Min		
Well No.	26	17	12	03	11	18	25	24	19	05	13	10	<ul style="list-style-type: none">• Zero issues releasing spear• Zero issues making cuts• Zero NPT recorded		
Anchor & Cut	1.00	0.75	0.50	0.50	0.75	0.75	0.33	0.75	0.66	0.75	0.66	Other Service company			
Conductor Cutting time	49 Min	16 Min	12 Min	21 Min	34 Min	27 Min	17 Min	29 Min	15 Min	31 Min	30 Min	120 Min			



FEATURES AND BENEFITS

- Maximum static overpull of 1.1m lbs
- Capable of cutting with 300klbs overpull
- Slips hydraulically activated
- All slips activated independently to ensure weld seams and well debris do not impede full engagement of conductor
- Reliable and simple to release spear by slacking off - no J slot or manipulation of the drill string required to release
- Passes through conductor restrictions with 26.5" OD
- Back up release - drop ball
- Maximum Catch 29"
- Knife sweep from 30" to 42"
- Designed to NS 1 specification

First run commencing at the test rig

TRIDENT FB offshore on first of 24 conductor cut & verify free runs

