## Progress Meeting 4 – Update to UEFA of visit to Brent Bravo

	Present
EPT-OM	Bill Campbell (Chair)
UEFA	Gerbrand Moyes
UEFA/1	John Madden
	Ken Merry
	Keith Mutimer

EPT-OM	Visit to Brent Bravo did not go well. Ken and I were taken aback by the apparent prevailing culture. Oil must be produced at all cost; Safety does not appear on the radar screen. There appears to be a brutal regime inflicted from the beach, and Birnie seen to be the architects of it. OIM broke down under interview, how is this going on I ask, 'well If I do not do what is expected from me will get someone else who will', he quotes. Informed UEFA that the workforce concerns recently expressed on BBC North and papers are valid, if anything understated. Why have the Offshore Safety guys down at Lord Cullen House not picked this up?
UEFA	Brinded had been interviewed by Internal Audit Committee. David Parkinsons's people had been told in confidence that there was a split in OSD staff, a few who supported Taf Powell with his proportionate laidback approach, facing open rebellion Powell had told them he had been requested by the Energy Minister to hold back, Brinded, and Finlayson publicly, had strongly refuted the union claims as exaggerated. UEFA confirmed that Malcolm had requested Helen Liddell to intercede. Brinded and Liddell had some sort of relationship, not known if this was sexual or just as the committee minuted 'a special releationship'.
UEFA	Given the sensitivity of all this, Gerbrand suggested in the interviews planned that the rest of the PSMR team be excluded from interviews that are likely to raise this subject with Brinded and Finlayson, John, Ken and Keith should concentrated on Brent as although there are problems elsewhere they are not so far apparently of the same magnitude. This was agreed.
UEFA/1	John to set up early meeting with UED, Bill and Ken will attend,
EPT-OM	Will prepare today a summary of hardware problems witnessed offshore, will copy UEFA and use in interview with Finlayson so he is fully briefed

Signed:

WM Campbell M Campul Signed:

SIEP EPT-OM

Lead Auditor on behalf of UEFA

\* MEETING WITH UED ARRANCED 17/9, STILL TO AGREE THUNG

# Progress Meeting 5 - Interview with UED to feedback and discuss concerns about operations on Brent Bravo

	Present	
EPT-OM	Bill Campbell (Chair)	-
UED	Chris Finlayson Production Director Oil	
UEFA/1	Ken Merry	
	File in UEFA safe storage	
	Phase 3 Building	

EPT-OM	Visited Brent B from 7 till 10 September. Informed Chris Finlayson (CF) that visits to Brent Bravo did not go well. Discussed fully the concerns and passed him a copy of these in the prepared Audit Technical Notes, he was advised that all these issues would be discussed onshore with the technical custodians, engineering specialists, asset managers, and external PFEER verifiers in the next week or so, If these findings are understood and accepted by the auditee I will request UEFA to arrange early meeting with you and Brent Management team to resolve these issues and reduce risk
UED	Agreed
EPT-OM	However as can be seen from the Notes provided that Bravo is operating on many fronts in a dangerous condition. Behavior is driven by the demands from onshore to produce despite the associated risks. Advised that he needs to talk to Berget and produce, we will meet them in the next week or so but there is no need to verify the findings as they were easily witnessed and accepted at every level, from technician to OIM, Expro needs to consider ceasing production until the serious breaches of PFEER and other regulations are rectified
EPT-OM	I have read the BBC North interview you gave to Colin Wight covered in the Scotsman and P&J. You paint a picture in so many words that the workforce concerns re Touch F All are exaggerated, a mere misunderstanding etc, reality the appalling conditions on the installation are worse, many times worse than they could imagine. You need to retract this statement, if not you are putting the reputation of Expro but also SIEP at great risk if you have been found to be deception
UED	Finlayson defended his position by stating he had used the information given to him by Bjorn Berget the Brent General Manager
EPT-QM	Informed UED that because of risks, to Expro reputation but also that of SIEP I will be communicating my concerns to EPT-OM asking him to discuss these serious concerns with your Regional Manger in The Hague. Under SIEP rules I cannot instruct you to cease operations but I make it clear that's what I recommend. I also concede this is not an oversight Audit on your Operations Unit by SIEP but rather I am a consultant under contract to lead your Review. Not also That although this work is called the Platform Management Safety Review (PSMR), under SIEP rules any Review completed by Auditors under Audit rules and develops findings that are agreed by the Auditee then it is an Audit. I only mention this because I can sense a defense being put tydown rate the consequences of the findings
All	These proceedings were read back to UED and agreed by all present as an accurate representation of the discussion

SIEP EPT-OM

Lead Auditor on behalf of UEFA

# Progress Meeting 9 – ongoing interviews onshore

	Present	
EPT-OM	Bill Campbell (Chair)	
PSMR		
Team		

UEFA/1	John Madden gave an update, Audits on 7 platforms has been completed and over 150 people interviewed, he estimates this number will increase to over 200. There are problems on all platforms although it seems that Brent is in a league of their own. There is no great evidence that TFA has been exported to the Northern or Central fields but there are many examples across these fields of weaknesses in essential controls. One of the organizational problems of Brinded's enhanced Expro is there is no longer a strong independent technical function reporting to a Technical Director, this provided checks and balances in the pre Brinded days. Now we have a technical function that has to sell its services to the line managers with the functions Heads of Departments subservient to the Production Director. Although this is working reasonably well in Northern and Central it is obviously a factor in Brent which appears to be a brutal regime & which puts two fingers up to complaints by the process owner's forums in the technical function
UEFA/1	Ken Merry added that there was evidence that production over safety seemed to be a field wide behavioral issue, previous Level 2 audits had raised this as an issue and there seems to have been little improvement, it is thought a factor is that the Brent crude oil price has continued to slump over the last two years A checks and balances organization i.e. Production and Technical Directors at the same job grade, would have inhibited much of the observed behaviors and returned the balance btw production versus safety to where it should be
EPT-OM	The codes of practice, standards in general, including the MOPO, the training and recruitment, are not at fault, in fact we have many technicians and supervisors with degrees, and the only major change I see since I left in 1996 is that anarchy reigns supreme especially in Brent. The standards are A-OK it's just that they are not applied. Unfortunately, I am not confident we are going to make a difference, already spent an hour with Finlayson. As a Petroleum Engineer he seems to have no idea about how large installations are designed and operated, apart from his unwillingness to answer any question when I spoke about risks in terms of IRPA, PLL and TRIF it was like speaking to a sponge, much passed in but naught came out. I would like to say his problem is lack of competence but it's more than that. He is Brinded's poodle of course just like Berget, but its more than that, he just doesn't seem interested. Ken and I both tried to kick him into life but failed. In both our opinions he is there to do Brinded's bidding, whatever that is
UEFA/1	We need to speak to lan Tope in UESE, he reports that ESDV's are having performance test results falsified, Keith and Ken will follow this up
EPT-OM	Many thanks to everyone have read most of the installation reports and it is fine work, don't think converting these into an action plan for the auditee's will be problematic with the exception I feel of Brent

SIEP EPT-OM

Lead Auditor on behalf of UEFA,

### Interview with independent PFEER verification inspector

	Present
Bureau	PFEER inspector for Brent
Veritas	Facilities
UEFA/1	Ken Merry
UEFA	File in UEFA safe storage
	Phase 3 Building

note	External independent inspector not named in line with SIEP audit procedures and sensitivity of subject matter, amended Technical Notes as a result of his input
BV	Inspector painted a picture of his dealings with the Brent Asset Manager was. It was a constant struggle to get access to him, his letters requesting access to the platforms were ignored, some platforms like Brent Delta he had never visited for 13 months. If he arrived at the office to see he had been humiliated when told to F-off. He told that on one occasion he was coerced by to sign off a whole tranche of oil mist detectors on BD as being in good working order but when after a year or so he eventually got access he found the detectors had been isolate for over a year.
EPT-OM	It was obvious on our visit to Brent Bravo that there was an extreme disregard for compliance with the testing of safety critical equipment, and maintenance generally. Compliance was reported in SAP as circa 96% but the actual compliance was 14%. Everybody offshore was aware of this, Wood Group the contractor seemed quite happy with their lot as the had an incentivized contract, they were paid for the 96% although they were well aware offshore that this reported value was meaningless, all this part of the so-called Touch F- all instruction issued by the Brent manager. We have still to verify all this through interviews at Seafield House but don't hold out any hopes that it will be better than reported but at least we will determine how his non-compliance is being authorized. Note also from inspection of reports from previous audit that there were 96 overrides on safety critical fire and gas and other systems on BD, and we found 29 on BB. We have a major concern re PFEER, its noted that on BB there was a goal widening approach adopted, when for example the deluge systems did not activate within the designated time period the standard was changed from 20 to 120 secs, the same for ESDV leak off criteria, these were changed from the statutory limit of 1 to 4 then later to 20 times the value. I think you would agree to our findings that in the Brent field generally the statutory verification re SCE is not being met through willful negligence
BV	Agreed
EPT-OM	Amended Technical Notes containing the inspectors input at the interview discussed with him by phone and agreed as accurate, these will be attached with these minutes in a Note to File
UEFA/1	Requested Ken take this matter up with UEFA and discuss with the Brent Head of Inspection and UESE re the risk and obvious legal implications
All	These proceedings were read back to BV inspector and agreed by all present as an accurate representation of the discussion

NB: PFEER is the Prevention of Fire, Explosion and Emergency Response Regulations which are mandatory as covered in the installation Safety Case. Bureau Veritas has a contract to provide independent competent assessment that Shell are meeting its statutory requirements under PFEER and this entails regular free and unobstructed access to the offshore installations Brent Alpha, Bravo, Charlie and Delta.

WM Campbell. EPT-OM Many Lead Auditor on behalf of UEFA,

Signed:

on. 29/9/99

# Interview with Brent Asset Manager

	Present
EPT-OM	Bill Campbell (Chair)
UEDN	
UEFA	Ken Merry
A/UEFA	Keith Mutimer
Location	Seafield House
UEFA	File in UEFA safe storage, Phase 3, Tullos

EPT-OM	We found Brent Bravo operating in appalling conditions with risks levels clearly in the intolerable range. UEFA has already discussed our concerns with UED and I asked Finlayson to contact and discuss with UE. I would like to go through the Technical Notes highlighting our principal concerns, at the end of this discussion we will ask you if you agree with what we have covered and if the findings are disputed by you, or not
EPT-OM	Operation of the Test Separator to augment production whilst is in a dangerous condition, that is in breach of design codes, Expro codes of practice and such an operation is not allowed in the Manual of Permitted Operations (MOPO).
	Agreed with a shrug, no defense put forward
EPT-OM	Operating a Fire pump continually when it is connected through a manual x-over valve into the service water ring main This way of operating since you lost the Drilling service water pump into the sea. This is bad enough, but the PCV on the service water main is defective, failed in full open position. Should the platform trip on high level gas for example and you need the fire pumps in anger there will be insufficient water to supply seawater deluge systems and hydrants. Not only is this unlawful but it raises the risks to people also risks to the impairment of the temporary refuge (TR)
	Agreed, no defense
EPT-OM	We heard from Ian Tope UESE before we went offshore that tests on ESDV are being falsified. Our findings support this and it is yet another example where production dominates any concerns about risk. The records are being completed as No Fault Found when if fact the LOT results at 20 scm/m are 20 times greater than that set in your Safety Case. Despite complaints from onshore system custodians you are acting autonomously with no regard to the advice from the functional specialists, you appear to treat them, including the independent PFEER inspector, who is more or less banned from getting access to you, and from ever going offshore, with contempt. The PFEER inspector informed us that some time ago you pressurized him to sign off - as in good order- a whole tranche of fire and gas systems on Delta, but when he eventually got out to Delta he found all the line of sight gas detectors isolated, is this true?
UEDN	Agreed yet again with no denial and also no argument to support what he was doing
EPT-OM	Spoke earlier about how you are operating Test Separator, in this condition there is a high risk of gas breakthrough from the vessel into the storage cell because you cannot control the liquid level in the vessel. From my experience an explosion in an enclosed column is very bad news, on. Cormorant A in 1989 the effects of that explosion was mitigated when the explosion relief device operated, but on Bravo the explosion relief cover has two marine containers with a combined TARE of some 40 tonnes sitting almost permanently atop the cover. Spoke to the toolpusher, Walter Allan, he was with me on Brent A, he is aware he should not use this spot but with so much going on there is extremely restricted space on the skid deck
EPT-OM	You are recording for August 96% completion for safety critical maintenance but we have gone through the data in SAP in these offices and the actual completion was 14%. This false reporting is prevalent on Bravo but also on your other 3 installations. This behavior is as direct result of your instruction, the so-called Touch F All memo sent to all OlM's. UED Finlayson claimed in September in an interview with Colin Wight of BBC North and others that TFA was just a misunderstanding, the claims by unions were exaggerated etc, but in reality, your TFA instruction has led to a situation where almost nothing is getting done, you just can't carry on like this, you need to retract that instruction. Finlayson told us his reply to the media was based on assurances he got from Berget. Were you involved in all this public deception?
	No, the TFA thing was never intended to have the effect that it has, the platforms were tripping

	because of carelessness carrying out inspections and tests, these caused us considerable downtime, I had to do something, I was getting it in the neck from Brinded			
EPT-OM	this TFA is having another effect, Permits are not getting raised because the permit would be used against the culprits, as you see them anyway, if the platform tripped spuriously. This is what happens when the offshore guys are scared shitless of you have, and the brutal regime you are running. This is a common theme that Ken and I ran into, everything that is being done, the separator, the Fire pumps the violations of PTW etc, is being done in your name, why is this happening? This would not have been possible only a few years ago when I left, can you imagine Brian Ward and Keith Allan putting up with this			
	Yes Bill, but its all changed since your day, we have to answer to Brinded now			
EPT-OM	that's the third time you've blamed Brinded for your ills. You're the bloody Asset Manager its up to you to stand your ground, the truth appears to Ken and me is that you are perfectly happy to do your masters bidding, you seem more interested in being in the McKinsey top quartile, in truth you don't seem to care a hoot for the 1600 or so crew working in your brutal regime, foaming at the mouth and blaming Brinded isn't going to save you should the inevitable happen, your streetwise enough to know that			
EPT-OM	One more item and then I will sum up. We have been at this for almost 3 hours and we will schedule in another meeting there is more we want to raise especially your unacceptable treatment of your staff and the independent inspectors. Change Control, I wont insult you by explaining to you what the codes of practice say on change control, As Asset Manager you are not authorized to instruct offshore staff to make physical changes to plant & equipment without the prior approval of a competent person onshore, are you? I take that as a No. We came across at least 14 unapproved temporary repairs, clamps and patches almost half on hydrocarbon pipes. None of these patches were approved, also not listed on a register, the fact is selected if you aggregate the risks to the POB we have the separator, the fire pumps, the isolation of fire and gas sensors, the overrides and inhibits in the CCR, the goal widening of performance criteria for Safety Critical Equipment (SCE), the false reporting of maintenance compliance, the falsification of ESDV tests, restricted explosion venting from the columns, unapproved temp repairs and on top of that a crew conditioned by you to do your bidding, avoid using the PTW system and other chronic violations, all driven by your TFA slogan My point, and which I will take yet again up the line to the Hague if necessary, is nobody has the big picture that I have just fed back to you. From technician to OIM people know a little of what's going on in their sphere but putting it all together required this audit. My rough estimate is that individual risk per annum on Bravo may be higher than 1000 times the value in your Safety Case, and TRIF of the same order			
	Bill, you can report what you like, I guarantee when your report is gathering dust I will still be here and you'll be gone, they need me to run these four big beasts, its all that bastard Brinded's fault, he even has the cheek to ask me to get more involved in all this Enhance Expro shit, its unbelievable, I'm under a great deal of stress, I'm doing what he wants me to do, big numbers and straight lines, your living in the past Bill, this is today's reality,			
EPT-OM	from your decisions with an apparent lack of empathy for the guys working for you, I seriously suggest you seek medical advice, I'm sure Ken will agree			
All	These discussions were read back to the Asset Manager and agreed to be an accurate representation of our three-hour discussion			

WM Campbell 2000 on 1/10/99

SIEP EPT-OM
Lead Auditor on behalf of UEFA

POB = Persons on Board

Installation 
during visit

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#### ANTISOCIAL PERSONALITY DISORDER

# Sociopathic Behavior Traits observed in Brent Asset Manager

Witnessed Behavior for example in Emergency on Scene Commanders, or generally if the Person being observed is under Stress six simple six-part checklist.

Witnessed Behavior under	Evidence of enactment of	
interview	behavior	

Regularly flouts or breaks the Law	Operation of Test Separator, and Operation of Fire pumps, Acceptance of violations of procedures and his part in causing same, e.g. PTW
Lies and Deceives others	Lied to Bureau Veritas PFEER inspector that safety critical fire and gas detection systems on Brent D were in good order when in fact they had been isolated as being unserviceable
Ipulsive and doesn't plan ahead	Impulsively took disciplinary action against staff whom he accepted were not in any way to blame to save face  No plan for example to reinstall Drilling Service water pump, just unlawfully use Fire Pumps forever
Little regard for safety of others, no empathy for staff he treated abysmally or whom he put at occupational risk	Informed and accepted Individual risk, and Risk to TR impairment on Bravo were 1000+ times higher than Safety Case levels but didn't seem to care, detached from this reality
Irresponsible	Seemed detached from reality, no caring for the health and safety of 1600 or so employees offshore. Constantly blamed others, namely his MD Malcolm Brinded
Doesn't feel remorseful for the effects his behavior has on others	Refer to impulsive behavior above, also his Head of Inspection had been off sick 'savaged' it seems by him, be did not seem to care

WZ

(1) Sociopathic and psychopathic behavior is similar but in the latter they are more severe

Wanner

(2) Witnesses to Behavior at interview of Asset Manager on 1/10/99 by the Author and Ken Merry, Operations Auditor, UEFA, Aberdeen

WM Campbell EPT-OM

Signed on 5 /10/99 as an accurate assessment of behavior witnessed

Acting as Lead Auditor for PSMR on behalf of UEFA: Sept to Oct 1999

# Second Interview with Chris Finlayson

	Present
EPT-OM	Bill Campbell (Chair)
UED	Chris Finlayson Production Director
UEFA	Ken Merry
UEFA	File in UEFA safe storage, Phase 3, Tullos

EPT-	Chris thanks for seeing us at short notice. You are restricted in time so I will get to the point. We interviewed	
OM	Bravo which has been amended since you first saw them with the details of the interview with Bureau Veritas.	
	All the findings he accepted, not the slightest hesitation, he seemed relieved to open up, coincidentally he	
	does not hold you or Berget in high regard, he implies that he answers to Brinded only. He seemed to me to	
	be mentally unbalanced, somehow isolated in his mind from the decisions he is taking and the foul way he	
	treats people. From my training and experience he exhibits sociopathic tendencies when his behavior is	
	checked against my 6-point checklist. He like you I imagine blames Brinded for his predicament, over and	
	over again he did that. Anyway, advised him, Ken agrees with this, towards the end of a three-hour session,	
	when he was not under stress, rather was relieving his stress by his outpouring. We asked him to seek	
	medical advice, which I understand he has done. There is a final presentation, think the date planned for this is	
	either 22 or 29 October, will recommend as representative of Shell International that if no action is taken in the	
	interim that Berget, and Birnie be suspended with immediate effect pending an investigation into their	
	unacceptable conduct. Due to the sensitivity will not mention our concerns re but suffice to say these	
	minutes will be kept by UEFA because in my opinion, an opinion shared by the PSMR members involved in	
	looking at the Brent and its operations, that if we continue operating Bravo in its current condition a major	
	incident involving injury or fatality, and with the potential of impairing the TR is inevitable. It may take a week	
	or a year, it doesn't matter, it will happen. You also need to consider your position. You are clearly working	
	under instruction from Malcolm to keep a lid on this bag of worms, you should not be confident if the worst	
	happens that the bold Malcolm will protect you, you will be hung out to dry to protect the golden boy's	
	progression up the ladder. It's very much in your interest to copy him on these discussions. In any case the	
	Corporate Management System (CMS) which is the foundation for the oilfield Safety Cases make clear that the	
	Production Director is accountable for the health and safety of the thousand souls working offshore in the	
	Brent, Central and Northern fields, and although we concentrate on Brent there are serious problems	
he let de	everywhere we look, Audit is simply a sampling process, the more wellook the more we will find.	4
EPT-	Other business, you are aware that your internal audit committee interviewed Brinded who accepted he asked	
OM	his friend the Energy Minister to intercede to prevent the OSD investigation into the workforce concerns, Yes.	
	I know quite a lot about Liddell, I was brought up in a coal mining area near her constituency in Shotts and Airdrie. These are communities where respect has to be earned and I understand from my family, some of	
	whom are politically active trade unionists, that she is well respected locally. She has a fearsome reputation as	
	a hard-nosed politician but I am completely certain that she will not be aware of this PSMR and its finding or	
	she would not have acted to assist Malcolm. Also, I doubt that Taf Powel and his merry men down at Lord	
	Cullen House have been informed also. Will take your lack of denial as affirmation of this	
All	These minutes were read back to the Production Director and agreed to be an accurate representation of our	
	discussions	
		1

WM Campbell. Many Many Many Signed: on 4/10/99

SIEP EPT-OM acting as Lead Auditor on behalf of UEFA,

# Preliminary Meeting with Brent Management Team

	Present
EPT-OM	Bill Campbell (Chair)
UEFA	Gerbrand Moyes -
UEFA	Ken Merry and Keith Mutimer
UED	Chris Finlayson
UEDN	Bjorn Berget - Brent GM and Graham Birnie - Deputy AM
UEFA	File in UEFA safe storage, Phase 3, Tullos

EPT-OM	The Audit Technical Notes updated after the interview with the PFEER independent inspector from Bureau Veritas were used as subject for discussion. Thanks to UED, we had a meeting with him squeezed into a busy yesterday where we spent most of that time discussing and his response to us at an interview on Friday past. It is sensitive and will leave it up to UED to discuss with Bjorn as he sees fit
EPT-OM	We are disappointed, stunned even, to learn from Gerbrand that despite our appeals to reduce risk, on Brent Bravo particularly, nothing as yet appears to have been done. I met Chris some time ago to update him on our concerns within days of our return from Bravo. This installation is operating with unacceptable levels of risk; hopefully after this meeting some action will be taken. Your workforce and the public are blissfully unaware of the risks, asked Chris to retract the comments he made to the media but that hasn't been done also. The bottom line is that TFA is alive and well breeding in what we witness as a brutal regime with ongoing denial of the risks.
BB	There is quite a bit of push back from my people, what exactly do you expect from me
EPT-OM	You have all read the Notes, has accepted all this with no challenge, so with reference to the rigor of your Level 2 audit process when the findings covered in the technical Notes are accepted by the auditee they are then to be converted in a timely manner into actions by the auditee. We assist in that process. There should be no energy taken up by denial after all he is the accountable person as Asset Manager, if he accepts the findings that should be the end of the matter. We also hear feedback that PSMR is not an audit, to clarify SIEP rules which we all work under, any Review whether Health and Safety or Business controls is deemed an Audit if it is carried out by Internal Auditors and it comes up with findings with recommended actions for improvement
88	hasn't returned to work since you interviewed him on Friday, he is suffering from severe stress I hear; perhaps it was your interview techniques Bill.
EPT-OM	Yes, Bjorn we hear the messages coming from Seafield House, the audit is a personal vendetta by me against etc. Ken Merry can confirm yes was under stress during the interview but he blamed the situation he was in on one man, Malcolm Brinded, he was foaming at the mouth, couldn't get his condemnations of Malcolm out rapidly enough, it was an easy interview for an auditor, it was surreal, like a confessional where he was baring his soul looking for some sort of redemption. Secondly, I have known for a couple of years before I left for The Hague in 1996, you should be aware that he was promoted in 95, Brian Ward, Peter Reiss and I were on the panel, so since I was involved in his promotion and have since had no contact with him in 4 years there doesn't seem to be any merit in pursuing the vendetta line, the last person who would support that would be himself. The irony is, everybody offshore blames him and he blames Malcolm
EPT-OM	It's approaching a month since we first met UEFA followed by UED to express our concerns about Bravo. As far as the PSMR team is aware nothing has been done on Bravo to reduce risks. This is unacceptable; you are operating many systems unlawfully. So should not continue as Asset Manager and since this negative safety culture has flourished in Seafield House, where extreme denial is the norm, both you Bjorn and Graham should seriously consider your position.

WM Campbell.

Signed:

SIEP EPT-OM Lead Auditor on behalf of UEFA

# Meeting with Deputy Brent Asset Manager at Seafield House

	Present
EPT-OM	Bill Campbell (Chair)
UEDN/1	Graham Bernie
UEFA	Keith Mutimer
UESE	Peter Wyatt - Head of Safety Department
UEFA	File in UEFA safe storage, Phase 3, Tullos

Intro	Graham we welcome Peter along to listen to the discussion, and contribute as he sees fit, he has been requested to attend on behalf of UED and UE
EPT-OM	Graham, we had a 3-hour interview with sick leave, have you heard from him?
UEDN/1	No, just from HR that he is suffering from stress and anxiety, we do not know when he will return
EPT-OM	The formality of the Audit process as I explained at the recent preliminary meeting on the 5th October is that the Asset Manager has accepted the findings but since he is absent we need to clarify a couple of points again with you, and for Peter. Also, if there are some other issues of importance, or which are bothering you, for example the conduct of the PSMR etc, please feel free to get it off your chest. As far as Brent is concerned this should be our last interview, phase one of the PSMR will complete after the upcoming Management presentation and then we will go onto to develop meaningful recommendations with you and the other Asset Manages involved in Northern and Central fields
UEDN/1	Understood, nothing to add
EPT-OM	The three biggest risk concerns re hardware are (1) the continual operation of the Fire pumps, we recommend you cease Drilling and close the valve connection from the firewater main to the service water main, at the same time with Drilling suspended ensure pressure relief pots above cellar deck of columns are unrestricted. This X-over valve closure will allow Fire pumps to brought back to good condition ready immediately in an emergency as is your legal commitment. At some point in the near future repair the PCV on the seawater discharge to sea. Before commencing Drilling, you should repair the corroded caisson and reinstall a pump to supply drilling in future, understood?  (2) Stop the constant use of the Test Separator to augment production and repair the LCV and upstream and downstream XCV and ESDV failing we understand due to sand erosion, understood. Using it in the manner being done is in breach of the design codes API 14 and API15G, the DnV technical codes and your own codes of practice. This eliminates any risk of gas blow by from the Separator into the storage cells with potential gas leakage above the Column's gas tight floor, understood? (3) Sand erosion as you are aware as a Maintenance Engineer seems to be the principal failure mode on your hydrocarbon piping, its only gong to get worse over time. Ensure that when a temporary repair is carried out on a hydrocarbon pipe that the repair is logged and place on the register available on the installation, ensure the repair is inspected by the platform inspector and ASAP inform the technical authority to seek approval for the repair
UEDN/1	Yes, to points (1, (2) and (3)
EPT-OM	Thank you for that, we seem to be making progress, Peter any comments, No
EPT-OM	There is much evidence, not just on Bravo, that the performance criteria of ESDV are being amended in an unauthorized way, in fact one ESDV is now sitting with a leak of rate of 20 scm/min which is 20 times higher than the limit stated in your Safety Case. This has to stop. Before you change the performance standards for any safety critical equipment including ESDV you must seek PRIOR approval from the technical authority this being in writing, understood?
UEDN/1	Yes
EPT-OM	We have reviewed the records by sampling a number of ESDV records in the field after being informed by one of Peter's engineers lan Tope that ESDV maintenance records are being falsified. With respect to Bravo it is noted that the principal ESDV valve on the gas riser failed its LOT and was now operating at circa 4 scm/m although the maintenance

	records entered into SAP state quote <u>No Fault Found</u> unquote. Graham this is a very serious offence an it has to stop	
UEDN/1	Yes understood	
EPT-OM		
UEDN/1	Yes, understood he said with a smile!	
All	These minutes were read back to the Production Director and agreed to be an accurate representation of our discussions	
UESE	After the meeting was suspended asked Peter Wyatt for his opinion in Mutimer's presence Peter, you look visibly shaken, is the situation as a as we reported to UED, Yes Bill, but its worse much worse	
EPT-OM	Peter will you ensure that your concerns are made known to Chris Finlayson and Malcolm Brinded	
UESE	Yes, Bill absolutely, you can count on that	

WM Campbell. MCMMMM on 15/10/99

SIEP EPT-OM

Lead Auditor on behalf of UEFA,

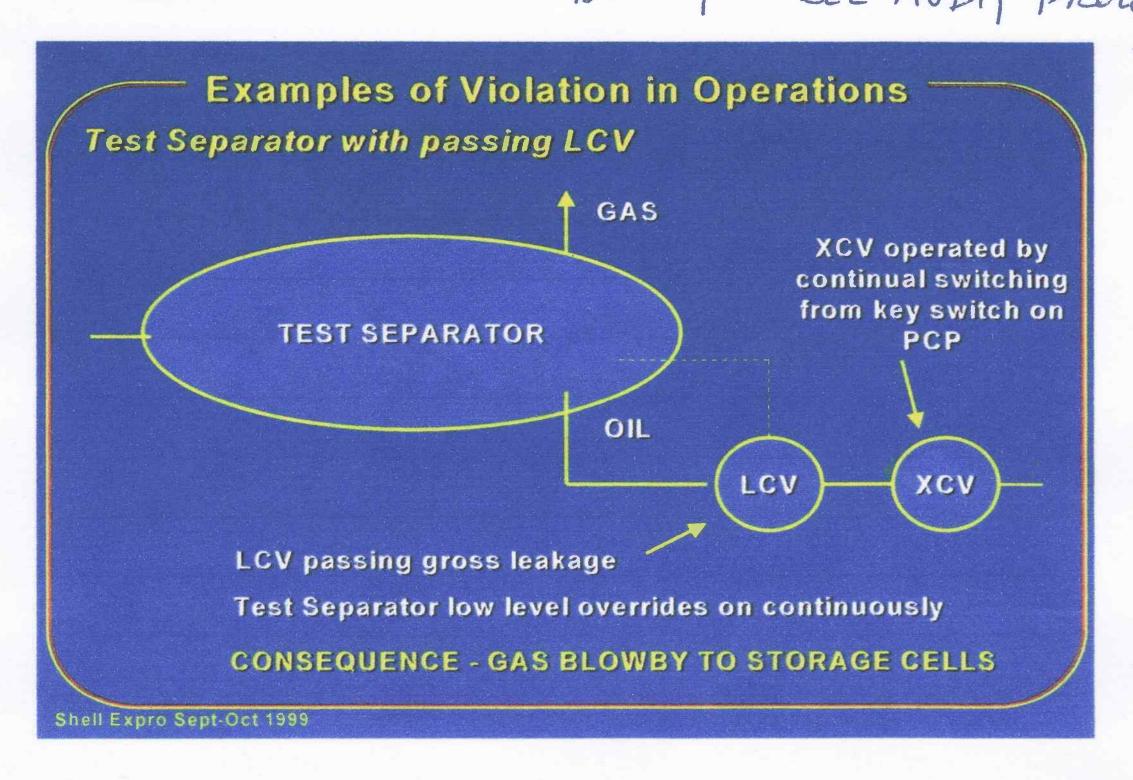
Brent Bravo September 1999

USED IN INTERVIEWS WITH

PRODUCTION DIRECTOR

GM, AM & DEPUTY AM FOR

PSMR AUDIT TECHNICAL NOTES BRENT - SEE ANDIT PROGRESS



#### Operation of an Oil Separator Vessel in a Dangerous Condition

(a) It was observed in the Central Control Room (CCR) that the CRO was controlling the levels in the test separator by constant manual intervention.

There was a problem with the Separator LCV, it was passing with such volume that it could not automatically control the separator level and the Low Level alarm and LL level executive action was disabled. The CRO 'needed to control the level by throttling the XCV downstream of the Separator'. This had been ongoing for some time. It was thought that sand breakthrough - this had occurred on a number of occasions - had over time caused erosion of the valve internals. The Separator had been used in this way for a considerable period, it was, or had become normal operating practice to use the separator to augment production in addition to its specified role of testing the performance of individual wells as required'. Disabling the logic associated with the LCV inhibited the automatic action that would normally be taken on LL level in closing the process ESD valve upstream of the separator and the XCV (to prevent gas blowby to the downstream process). It was verified that such operation was not covered in the POPM and that the CRO did not have a temporary operating procedure. The leakage rate had increased over time, initially overrides were applied during transient upset periods only but as level control had become more problematic these had become permanent and operating the separator in this fashion had become normalised. The CRO stated he was working under instruction and the operations carried out with him were known about and accepted by his supervisor. This statement was verified from later discussions with these supervisors. The CRO had no knowledge of any HAZOP being completed and it was again verified with the supervisors that no risk assessment had been undertaken. When asked why the separator was being used in this manner, in contravention of mandatory codes of practice related to change control and variance without prior approval of a technical authority of IPF logic, the Operations Supervisor stated that the situation was known about and accepted by the beach and this had been subject to various discussions at the morning meetings with the onshore support team. On visit to the separation module it was observed that the manual switching of the XCV was causing chattering, associated vibration, contributing to regular seepage/leakage of hydrocarbons from the valve stem.

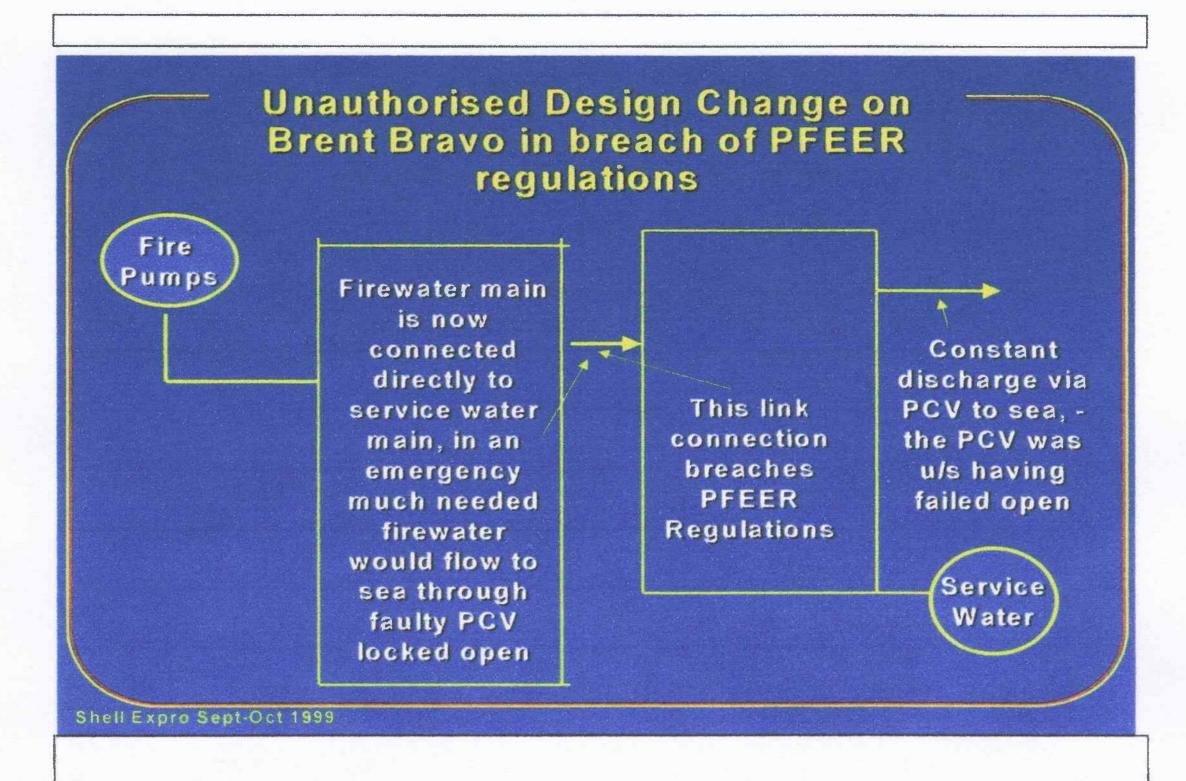
(b) It was observed in the Central Control Room (CCR) that the overrides associated with the operation of the test separator were not recorded in the override logbook

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The CRO conceded that these overrides should be logged in the book and perhaps the reason why they were not was that the situation had developed over time. Initially they would be applied for short periods and this crept up over weeks to the situation where they were now applied constantly. The inspector onboard confirmed that he had a responsibility for independently verifying overrides and inhibits in the CCR. He was not aware, had not been informed, about these overrides

(c) The CCR layout and the DCS display etc ha been much improved as part of the refurbishment project. However the CRO was always involved in some action or other including answering telephones and responding to signals from his DCS display. Although during steady operations he was confident of controlling the levels in the test separator by manual intervention if there was a problem with the process, or a trip or change of platform status caused alarm flooding, that during these hectic periods there was always the chance that he could overlook the separator levels being distracted by other events. One of his concerns also was that for operators entering the legs to carry out operations checks etc he would have additional duty as leg sentry monitoring what was going on and this could also distract his attention, particularly if there was a problem in the column

apdated 20/9/99 hC



Unauthorised Changes to Safety Critical Equipment

Brent Bravo had lost into the sea (corroded caisson) a seawater pump dedicated to supply the Drilling process. In order to save OPEX/CAPEX in purchasing a new pump, a decision was made to utilise firewater to augment the service water system. A full-bore connection was now constantly open between the firewater main and the service water main. As a result of this change the modus operandi was that one 100% duty firepump was running continuously into the service water system. Additionally, and to compound matters, the second firewater pump was of suspect reliability. The CRO Handover notes stated 'standby firepump about goosed, only run in anger'. In the same Handover Notes the PCV on the service water main was noted to be 'jammed open' and this situation had persisted for many weeks. As a consequence insufficient firewater would have been available for firefighting. If there was a power failure as a result of coincidental high levels of gas for example, the service water pumps would be isolated and thus unavailable and with the pipework as configured the firewater pumps would discharge their output directly to sea via the jammed open PCV - even if the unreliable second pump was started an operator would have had to go to the crossover between the fire and service main to close this valve manually.

When questioned the Operations Supervisor/OIM were aware of this situation but again indicated that these decisions were taken by the beach and known about and accepted by the Asset Manager. It was verified that to their knowledge no risk assessment of operating in this way had been carried out and they were not aware however if the relevant technical authority had approved this change.

It was later verified onshore that the Engineering Manager, as design authority, was not aware of and had thus not approved this change.

Aide Memoir: It was also observed from comments in the CRO Handover Notes that the functionality of the emergency generator was suspect with comments 'air in lube oil, don't run unless needed'

Other Business

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#### Line of sight gas detectors

All the hydrocarbon module line of sight gas detectors had their executive actions inhibited. There was no valid justification for this. These detectors from time to time operate spuriously for a variety of reasons and they were therefore only isolated to prevent a process shutdown – a part of TFA policy. The inhibition of these systems was logged in the CCR. No QRA or other qualitative analysis had been completed to justify the inhibition of this crucial equipment, and no authorisation via change control process had been raised with a technical authority

#### Control of Overrides on Safeguarding Systems

There were 29 overrides logged in the CCR logbook. These overrides were on process control and safeguarding instrument functions – again as with the LOS detectors no justification of the risks had been produced and no change control procedure authorising the overrides had been raised. The only justification forthcoming was with the overrides in place it reduced the probability of spurious trip of the process – TFA policy

#### Failure to comply with essential Maintenance

Compliance with safety critical maintenance and inspection was as low as 14%. Almost all of this deviation from the target figure of 100% was part of the TFA policy. It was noted that some systems such as water deluge were overdue their test period by 12 months. It was also noted from historic records that a number of systems which were overdue had failed when eventually tested, so their was a known and accepted high failure rate for safety critical systems designed to mitigate against the escalating hydrocarbon or other top events. A number of these systems had 'hidden failure modes', that is the Operator would not be aware the system had failed until it was called upon to operate.

On checking on the beach, of a sample of 75 systems, which had not been examined and/or tested in August, only 5 approved deviations for the non-testing of these systems had been raised. It should be noted that all the SCE on Brent Bravo had their periodicity set following Failure Mode Effects and Consequence Analysis (FMECA) as part of a huge investment around 1992/3 in Reliability Centred Maintenance. In short if the SCE is not examined and/or tested within the scheduled period then the risks of the SCE failing on demand rises as time expires. This is why 100% compliance with the examination and testing of SCE is essential and mandatory as the Shell policy standard. Not to comply at 100% is accepting residual risk levels significantly above ALARP levels.

#### Safety Critical Equipment performance under test – a goal 'widening 'regime

Records indicated that on Brent Bravo when SCE failed its performance criteria during test, the criteria simply changed, and the records changed to show 'test results acceptable'. For example seawater deluge operation within 20 seconds changed to 120 seconds. ESDV leak of test criteria increased by 4 times then to 20 times the original mandatory level. . No example could be found of any SCE equipment, which had failed its performance test that was corrected at the time until it met the Company standard performance criteria. Before changing any of the Company performance criteria the Asset Manager should have sought approval from Expro internal verification department, but he did not. Also the technical authority responsible for change and variance control under mandatory Expro codes of practice should also have been in the loop but he was not.

Interviews with the department responsible for the internal verification scheme UESE/4 highlighted that they were aware of what was happening in Brent but accepted that they were unable to do anything about it, they appeared passive. The external verifier by was interviewed at Veritas House. He was also aware that performance criteria were being widened. He raised many concerns and complained that he could not get reasonable access to the Asset Manager to discuss his concerns. He stated in one example that he had been coerced into signing of documentation that the oil mist detector system on BD was in order. He did this in the promise from Shell that they would rectify faults in this system and put it into effect with some immediacy. When he then visited BD some 13 months later he found the oil mist detection system had been permanently isolated. When challenged if he had raised

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these concerns with his own Management he said that he had but that they were not entirely supportive of him. The implication was that the contract with Shell was significant in terms of their overall portfolio and that he shouldn't rock the boat. One of the most alarming aspects was his answer to the question 'what are the limits of goal widening'. For example, if to get ludicrous Brent set a response time for deluge systems at 2 hours 30 minutes what would be his response. His position was quite clear. He would verify the response time against the standard he was given. At that juncture we lost entirely any confidence in the efficacy of the external verification scheme – if it wasn't so serious it would be funny.

#### Falsification of Test Results on Principal ESD valves

One of the worst cases of relaxation of performance criteria was a gas riser ESD valve. Although this finding is restricted here to BB it should be noted that evidence of this existed on the beach for all Brent riser ESD valves. ESD Valves, which had failed the leak-off criteria of 1scm/minute, were marked in the maintenance records as 'test results acceptable, No Fault Found'. This included the BB gas riser valves at 2 scm/minute. To cope with these performance failures the Asset Manager had set his new performance standard for all his Brent field installations at up to 20scm/m - twenty times higher than the oil industry recognised standard and twenty times higher than ESDV installed on Central and Southern installations. Even when a valve failed at this level the strategy had been changed such that the ESDV could stay in location, and the platform operate normally, until the next planned shutdown.

With no reference to an authorised technical authority the autonomous Asset Manager was setting his own standard – all this was done to prevent the installations from having to shutdown. The internal and external independent verifiers knew about these changes of standard but they effectively took no action to redress the situation.

Under formal interview on 15th October, and in presence of General Manager, the deputy Asset Manager accepted that ESD test records had been falsified. Before continuing to operate with an ESDV valve that had failed its LOT the Asset Manager should have referred the matter to a technical authority and a risk assessment should have been undertaken. This was a field problem, on BD a gas riser ESDV had a leak-off rate of 4 scm/m. A risk assessment was completed but only some 8 weeks after the valve had failed its LOT. This assessment, discussed in detail with the Asset Manager under interview, indicated that the risks of operation at the new levels on BD were unacceptable.

#### Failure in Controls to protect explosion venting

If a gas/air explosion occurs in the concrete columns of the condeep designed installations like BB the theoretically explosion overpressures – if not vented – could potentially cause the concrete support column to fail. This essentially is a catastrophic top event which could happen in such a short time frame (seconds) to make the survival of all persons on board unlikely.

An explosion occurred on Cormorant Alpha in 1989 but fortunately the pressure relief plug on the skid deck above Column C4 lifted to relieve the overpressure. Forthwith studies as part of the CA Safety Case had shown that CA box girder construction around the cellar deck could not withstand the maximum explosion overpressures predicted. In short, at the instant of the Cormorant explosion, if the pressure vent had not operated, the platform could have collapsed when the column C4 was no longer able to support its share of the load. Cormorant Alpha had in excess of 200 persons on board at the time.

It was observed that the pressure relief plug on the skid deck of Bravo were covered with two double stacked 20 foot containers which would have prevented venting of explosion overpressure from the cellar deck and concrete columns. The BB Shell Toolpusher had a control system to manage this but this system was being essentially by-passed. There were multiple activities taking place with drilling combined with wireline work and construction. Deck space as always space was at a premium. The potential consequence of the above was that partial or full failure of the platforms cellar deck or concrete column supporting to the upper drilling modules and derrick may have occurred post explosion in the relevant column. At the time of the observation there were 156 persons on board Brent Bravo.

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#### **Overview of Brent Bravo**

Brent Bravo with 156 person on board

Operation of test separator in violation of codes

LOS gas detectors were inhibited - outputs isolated

Unauthorised overrides in Control Room

Skid deck covered by heavy equipment - explosion venting impaired - casual control over same

Permit violations observed

Firepump 'only one run left on pump, only use in anger'

Firemain being used to supply cooling water to drilling

Two minor gas leaks - valve stems (not reported)

Emergency Generator questionable reliability (air in lube oil )

Seawater (PCV) discharge to sea jammed open

Low levels of safety critical maintenance compliance (14%)

OIM had no overview of of the above and many other dispensations/deviations

#### **VG20: Immediate Recommended Actions**

Shell Expro should take immediate action to reduce the risks of operation on Brent Bravo specifically and the Brent Field in general etc etc

#### Weakness and deficiency is apparent in the

lack of controls in the inhibition/overriding of safeguarding systems failure of the independent external and Shell internal verification process to pick up the weaknesses highlighted by the PSMR

failure to ensure that only competent staff who are assessed as such perform safety critical roles

Failure to notify and otherwise inform workforce on BB specifically of intolerable risk levels and what is causing same

failure to notify HSE (Regulator) of the true circumstances surrounding recent press and media coverage e.g. lack of compliance with SCE maintenance raised by OILC et al

(what OILC was claiming and newspapers/TV were reporting was factual, in fact situation much worse, but recent Shell Press release statements indicate all is well, not to worry etc. This will be a huge REPUTATION issue, if the above PSMR findings leak onto the streets)

Other business not related to BB - Failure to correct injustice to CA technicians disciplined in process now known to have been flawed

#### In conclusion

Objective of PSMR Review was to

Assess the adequacy & effectiveness of controls in place to manage platform operations

Opinion of PSMR Review Team

The sampling process of the organisation has verified that there are significant weaknesses in essential controls. In our opinion the fundamental reason for this is not the absence of structures, systems and processes but rather that inappropriate attitude and behaviour causes non compliance, or deviation from, these control processes.

We believe that the key business drivers and messages from corporate level are fostering undesirable behaviour in some parts of the organisation

# Shell International Lead Auditor Additional Recommendation

conduct. The justification for this was given as -Brent Bravo, the Asset Manager and his Deputy, and the General Because of the severity and span of the findings, specifically on Manager should be suspended pending an inquiry into their

dangerous condition to augment production (e.g. test separator) this included knowingly operating process plant whilst it was in a Bravo continued to operate with no actions taken to reduce risk, raised with these Managers but despite this the platform Brent From early September the concerns re the audit findings were

test records of safety critical equipment (e.g. ESD valves) falsification of maintenance records, and the falsification also of the The Asset Manager and his Deputy had admitted under interview to

signing of a whole tranche of test results as satisfactory only to find An independent external inspector reported he was bullied into isolated from use (e.g. Brent D oil mist detectors) 12 months later that this equipment had been unserviceable and

equipment all of which they were not authorised to do (e.g. the design and altered the performance standards of safety critical firewater main changes, temporary repairs on pipe-work) The Asset Managers regularly approved changes to equipment