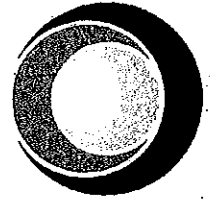


U.S. Department of Labor **Occupational Safety & Health Administration**
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Houston, Texas 77058
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August 3, 2009

Mr. Keith Casey
Business Unit Leader
BP – Texas City Refinery

Dear Mr. Casey:

OSHA is continuing its review of BP's efforts to comply with the 2005 Settlement Agreement. Based upon our current evaluation, we believe that there are certain areas of concern and want to bring them to your attention.

The 2005 Agreement required BP to retain a PSM expert to conduct a comprehensive PSM audit, with special emphasis on several items including the "adequacy of pressure relief for individual pieces of equipment." OSHA has steadfastly maintained that in order to review the adequacy of pressure relief for individual pieces of equipment, a comprehensive valve study must be completed. Although BP took a contrary position, it did agree in 2008 to conduct an audit of relief systems at the refinery. Specifically, BP retained the ioMosaic Corporation to initially audit the relief systems in the Pipestill 3B and the Ultracracker.

In its report dated December 19, 2008, ioMosaic identified several systemic deviations from industry standards. For example, the ASME Boiler and Pressure Vessel Code, Section VIII and API RP 520, Part II recommend that refineries establish a maximum default rule of 3% inlet pressure loss on spring loaded pressure relief valves. Contrary to these recommendations, BP has allowed a maximum allowable pressure drop of 7% on existing installations. OSHA is unaware of any engineering analyses performed by BP to support this position. Based upon OSHA's review of the ioMosaic report and the underlying calculations, we have found a significant number of valves with inlet pressure drops above 3% and disturbingly, several valves with inlet pressure drops above 7% with some as high as 27%.

We also believe that there are AccuTech Items that have not been fully addressed. Although BP has made some initial determination of what instrumentation needs to be Safety Instrument Systems ("SIS") and non-SIS, it has not fully implemented ISA S84.01-2004 (AccuTech Item Nos. 48 and 49) and has not completed a determination of which interlock, trip and alarm functions in each unit are critical to process safety (AccuTech Item No. 67).

Based upon the information that we have so far, it is our understanding that BP has identified a large number of uncontrolled or unmitigated hazards involving instrumentation that have resulted in substantial "residual risk" in affected systems throughout the refinery. BP appears to have fully implemented SIS for about twenty (20) identified equipment hazard scenarios, but there still exist a large number of identified unmitigated risk scenarios for which BP has not fully implemented ISA



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S84.01. Our information indicates that for some identified hazards, BP either has not specified or allocated the specific layers of protection needed and for other identified hazards where BP has specified the layers of protection it will use to control the hazards, the specified instrument controls have not been installed or are not operational.

In addition to the items specifically addressed above, we have attached a chart delineating other Acutech Items that have not been completed as of the time of our review. We believe that the failure to correct the issues addressed in this letter or outlined in the enclosed chart by September 23, 2009 would constitute a failure to comply with the terms of the 2005 Settlement Agreement and/or a failure to abate.

We look forward to a prompt response.

Sincerely,



Mark R. Briggs, CSP
Area Director
Houston South Area Office
Occupational Safety and Health Administration

Attachments

Attachment 1

AcuTech Recommendation Title and OSHA Citation Reference	AcuTech Description	OSHA Findings
PHM-TCR-2006-005-006	Consider standardizing on the convention (i.e. shading or hatching) used for designating hazardous vs. non-hazardous areas on electrical area classification drawings (especially between ISBL and OSBL) in order to minimize any misinterpretations. D.6.3	Electrical hazardous area classifications have not been completed. BP plans to complete it by 9/1/2009.
PHM-TCR-2006-005-009	Ensure that non-draft versions of guidance documents related to LOPA; SIS and SIL are completed and issued in a timely manner. E.8.7	GP 48-03 "Layer of Protection Analysis (LOPA)" references GDP 31-00-01 on page 5. GDP 31-00-01 (Doc Req 155) was re-numbered to <i>GDP 3.1-0001</i> , and it is in "implementation draft" meaning it was issued for 12 months from issue date. This procedure was issued 30 January 2008 and revision date 30 January 2009.
PHM-TCR-2006-005-014	Conduct a complete review of the inventory of all operating procedures for the FCCU3 and OMCC operating units (and others not sampled during the audit) to determine whether procedures for "normal shutdown" are available or addressed in other procedures for these operating units. F.4.6	Alky3 unit had written operating procedures addressing startup following a hurricane (SU-2525), which were available to operators via computer. OSHA was not initially provided a copy of these procedures. In addition, it was not on the list of procedures certified on 3/31/2009. A request to provide the missing procedures was requested 6/26/09. The dates on the procedure are issued June 2005 and revised September 2008.

AcuTech Recommendation Title and OSHA Citation Reference	AcuTech Description	OSHA Findings
PHM-TCR-2006-005-018	<p>Conduct a complete review of the inventory of all operating procedures for the 12 operating units (ALKY3; BLENDING; COKER C; DDU; FCCU1; NDU; OMCC; PS3A; RHCAT; RHU; SRU; UU4; and others not sampled during the audit) to determine whether operating limits (including consequences of deviation) are available or addressed in other procedures for these operating units. Based on document reviews for 16 operating units (ALKY2; ALKY3; BLENDING; COKER C; DDU; FCCU1; FCCU3; NDU; OMCC; PS3A; RHCAT; RHU; SRU; ULC1; UU3; UU4); 12 of 16 sets of operating procedures sampled were missing "operating limits" (including consequences of deviation). Files containing such information were found on the site's intranet K:/drive only for the ALKY2; FCCU3; ULC1 and UU3 operating units. See also findings for compiling of Safe Operating Limits (SOLs) within the Process Safety Information element of this audit report. [(f)(1)(ii)(A)] F.5.4</p>	<p>ALKY3's NOP B-04 addressed all known safe operating limits. It and Comprehensive Operating Limits Table (COLT) have consequence of deviation and means to correct. Written Operating Procedures were obtained for ALKY3. They included "Safe Operating Limits" (critical limits that can lead to upset or equipment damage), but all operating limits were included only in COLT. COLT was indicated to be a reference for operators and for training. COLT was NOT part of the Alky3 operating procedures provided by BP at the time of the request. Request made for completed and implemented COLTs for all units on 6/24/2009. According to company officials, no other units have completed their COLT table sufficient for use.</p> <p>In addition, COLT has multiple entries with NOLs (Normal Operating Limits) with potential consequences including equipment damage and other consequences which indicate that they are Safe Operating Limits (SOLs) and not NOLs as referenced.</p> <p>COLTs were expected to be implemented (table available for reference and training for the operators) by September.</p>

AcuTech Recommendation Title and OSHA Citation Reference	AcuTech Description	OSHA Findings
PHM-TCR-2006-005-028	<p>Consider standardizing on the method used for identifying which procedures are being certified in order to provide better assurance that the certification requirement is being satisfied. The audit showed that the method varied throughout the site; with some listing specific procedures; some merely referencing types of procedures; and others using both methods. F.10.2</p>	<p>See 2009 OSHA Comments in PHM-TCR-2006-005-014. In addition, TCS PS-4.0 for "Process Safety Policy Operating Procedures" (Doc Req 34a) has the intent "to provide and use up-to-date and accurate operating procedures that address all modes of operation." It has a list of References and Attachments on page 4 of 5 and 5 of 5. The list does not include PSM 4.3. The written policies have multiple methods. The site procedure for reviewing and certifying operating procedures (PSM 4.3) allows for the Superintendent to sign 1 document with a list of the procedures to certify the procedures.</p> <p>SD-2510 for continued operation of Alky3 during a Category 1 hurricane was provided to OSHA as a certified operating procedure, plus it was available to the operators as of 6/23/09.</p>
PHM-TCR-2006-005-029	<p>Consider completing a review and update of Confined Space Entry procedure PR-1 per procedure review requirements. (In-progress) F.12.2</p>	<p>PR-1 is Doc Req 35. According to the procedure it was "revised/reviewed" July 28, 2006, April 28, 2008, and July 28, 2008. A potential concern is the program allows entry into a confined space with up to 10% of the LEL. Health hazards are of concern with this level of exposure. (Example: 10% of the LEL for Anhydrous Ammonia is 2.8% (aka 26,000 ppm NOTE: LEL for anhydrous ammonia is 28%) which appears to be involved in the FCCUs for amine treaters). Another example is benzene has an LEL = 1.2%, so 10 percent would be 1200 ppm benzene.</p>

AcuTech Recommendation Title and OSHA Citation Reference	AcuTech Description	OSHA Findings
PHM-TCR-2006-005-048 and BP 2005 Citation 2 Items 10-29	Implement the standard for safety instrumented systems (SIS) (ANSI/ISA S84.01-2004) as soon as possible to properly identify those control functions in the site that are critical emergency shutdown (ESD) functions and need to be designated in DOCUMENT as SIS/ESD. This list of SIS/ESD functions should include not just the sensing instrument but the logic solver and the final controlled element. J.4.12; J.9.13	<p>The following are critical trips not tracked/listed in Document (aka Loveland database). Alky 3 LALL-1403 Isostripper Low-Low Level Trip Is Interlock To Activate C-1005 page 53 of 78 of NOP B-02. Doc Req 262 (all critical alarms and trips) does not have 1403 listed. Doc Req 257 response states they don't have any information.</p> <p>Alky3 HS-1920 Clean Seal Flush Skid Trip Function on page 63 of 78 of NOP B-02. Doc Req 262 (all critical alarms and trips) does not have 1920 listed. Doc Req 259 response states they don't have any inspection history information.</p> <p>Alky3 FSLL-1128 - P-1002 Low-Low Flow Trip on page 39 of 78 of NOP B-02. Doc Req 262 (all critical alarms and trips) does not have 1128 listed. Doc Req 260 response also states they don't have any inspection history information.</p> <p>Alky3 HS-1815A - C-1006 Isolation on page 66 of 78 of NOP B-02. Doc Req 262 (all critical alarms and trips) does not have 1815 listed. Doc Req 261 response also informed OSHA that BP does not have any inspection history for the critical trip.</p> <p>The above critical trips are NOT listed in the Appendix A critical trip list. Alky3 TALL-1410 is listed on NOP B-04 (p 16) as a 100 degree F trip. NOP B-02 (p 78) has it defined as a critical trip to be tested during TARs. This trip is not listed on Appendix A critical trip list nor on Doc Req 262. FAL-1127 and FSLL-1127 P-1001 Low Discharge Flow TRIP from NOP B-02 is also not listed in Document database per Doc Req 262. Doc Req 282 has requested any information on this flow information, but response not received as of July, 2009.</p>

AcuTech Recommendation Title and OSHA Citation Reference	AcuTech Description	OSHA Findings
PHM-TCR-2006-005-051	Based on the results of the revalidated unit PHAs, include utility systems that are critical to process safety in the MI program by listing them in PCMS (or an equivalent). J.4.15	Identification of all critical utility systems, create an isometric drawing for each piping unit, and conduct visual inspection of each piping unit per API 570 has not been completed. BP plans to complete it by 9/1/2009.
PHM-TCR-2006-005-056	Complete all overdue inspection, testing and preventive maintenance tasks as soon as possible. Consider reviewing the inspection, testing and preventive maintenance records for all other operating units not sampled during the audit to determine whether other critical equipment have overdue items. J.7	Information requested 5/19/2009 and reviewed 5/28/2009. Overdue inspections and preventative maintenance tasks have not been completed as of 4/30/2009 and 3/31/2009. See Attachment 2 for a listing.

Attachment 2 Overdue Inspections and Preventative Maintenance Tasks

Overdue-critical instruments as of 4/30/2009

CFHU	7
DDU	1
PS3B	11
RHU	49
UCC	6
UU4	3

Rotating Equipment Overspeed Trip Testing Overdue as of 4/30/2009

Alky3	2
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Relief Valves Overdue as of 4/30/2009

OMCC	2
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No. of Tank Internal Visual Activities Overdue as of 3/31/2009

ENVF	1
OMCC	2

No. of Pipe Thickness Activities Overdue as of 3/31/2009

FCCU1	2
OMCC	3
PS3A	138

No. of Vessel Internal Visual Activities Overdue

AU2	1
FCCU1	4
FCCU3	1
OMCC	1