

BP OIL -- TOLEDO REFINERY

Document Type: Procedure	Refinery Wide	Reference No.: SAF 058
Effective Date: September 26, 2017	Incident Investigation and Reporting Procedure	Revision No.: 22
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SCOPE	This procedure defines the types, responsibilities, time frame and reporting methods when conducting investigations. This procedure also ensures that follow-up actions are tracked and the results are published.
HEALTH	Sharing of lessons learned and timely action on identified recommendations has a positive impact on the health and safety of all employees.
SAFETY	See Health section above
REFERENCE DOCUMENTS	<p>OSHA 29CFR 1910.119(m) EPA 40CFR 68 Subparts C and D BP Practice 2.4-0001 Learning from Incidents BP Practice 4.4-0001 Reporting of Incidents BP Practice 4.4-0002 Incident Investigation D-PRO 4.4-0001 Incident Reporting and Investigation Process FIN-RD 4.4-0001 Group HSE Reporting Definitions TWP-007A API Tier I & II Evaluation</p>
SPECIAL MATERIALS & EQUIPMENT	IRIS Incident Management System
QUALITY	The quality of investigations along with the appropriate recommendations can impact the probability of incident recurrence.

ENVIRONMENTAL	Sharing of lessons learned for environmental incidents and timely action on identified recommendations may have a positive impact on the environment.
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OVERVIEW

This procedure establishes expectations for incident investigations to ensure their quality and reduce the risk of future accidents. Incident investigations identify the facts related to the event, determine the root causes, and develop corrective actions in order to prevent recurrence. The minimum requirements for establishing incident investigation teams, conducting the incident investigations and reporting the findings are provided. This procedure also defines incident reporting requirements. Note: for those incidents involving marine functions, the Group Marine Standard will also apply.

This policy addresses the requirements of GDP 4.4-0001 Reporting HSSE and Operational Incidents, GDP 4.4-0002 Incident Investigation, OSHA 29 CFR 1910.119; and EPA 40 CFR Part 68. OSHA's requirement from its process safety standard is, *"The employer shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of highly hazardous chemical in the workplace."*

The basic tool for reporting all refinery HSSE incidents is IRIS.

DEFINITIONS

Accountable Individual: The person responsible for initiating the investigation, appointing and agreeing the terms of reference with the investigation leader.

BP RCA Investigation: S&OR defined methodology that includes techniques for gathering evidence, undertaking interviews, determining causal or contributing factors using Logic Tree and human factor analysis tools and developing recommendations.

Note: In order to qualify as a BP RCA Investigation, the investigation leader is required to be certified as defined in the S&OR BP RCA Investigator Competency Program that covers the detail of the relevant techniques. For a list of trained / qualified BP RCA Investigators, please refer to SAF-058-RF01.

High Potential Incident (HiPo): An incident, unsafe/unhealthy condition or near miss where the most serious probable outcome is a Major Incident (MI). In addition, this includes any Loss of Primary Containment (LOPC) incident where the potential severity is classified at Level E or greater as defined in GDP 4.4-0001 Reporting of Incidents. In other words, a high potential incident is an incident with a potential severity level A – E.

Note: A HiPo may not be identified as such at the time of the incident and it is only after investigation that the true severity of the most serious probable outcome becomes clear. If, after investigation, an incident is found to fit these definitions, it should be reported as a HiPo, even if it is outside the nominated reporting timeframe.

Incident: Defined as an unplanned event or occurrence that affects or has the potential to affect the health, safety, or security of people, assets, or the environment.

Incident Investigation: The process to determine the facts that explain what, how and why an incident occurred and, when applicable, to make recommendations to reduce the likelihood of recurrence and operational risk.

Incident with Consequence: An unplanned event that impacted the health, safety, or security of people, plant, or the environment. Some examples include: A person slipped and was injured; a dropped object injures a person or damages equipment, any LOPC or equipment damage. **All incidents with consequence must have an investigation completed and uploaded to the appropriate IRIS record.**

Incident without Consequence: An unplanned event where no loss occurs, but given a different set of circumstances, an actual loss through injury, damage to assets, environmental harm or business interruption could have occurred. An **incident without consequence** is also referred to a **near miss**. Some examples include: A person slipped but was not injured, dropped object with no damage to people or assets, process

upset results in a safe design limit being exceeded, but with no LOPC or equipment damage. **All incidents without consequence are to have an investigation completed and uploaded to the IRIS record.**

Integrity Management incident: Per the BP definition is “any incident where the main root cause would be addressed by the IM Standard and where there is actual or potential harm to people or the environment”. This includes:

- Loss or potential loss of primary containment
- The failure of an engineered system (including mechanical, electrical, structural, lifting, process or process control and protective systems/devices).

Significant Integrity Management incidents shall be investigated. These include MIA's, HIPO's, uncontrolled releases, unexpected failures of materials, equipment or structures, and accelerated rates of damage.

IRIS: BP application for recording, reporting and learning from incidents.

IRIS Incident Manager: Manages the IRIS Incident Record through to completion and approves for reporting.

IRIS Responsible Leader: Reviews the IRIS Incident Record for completeness and agrees the record can be approved for reporting.

Loss of Primary Containment (LOPC): An unplanned or uncontrolled release of material from primary containment.

Major Incident (MI): A health, safety, security or environmental incident in which the actual severity represents a Level A-D or E impact as defined in GDP 4.4-0001 Reporting of Incidents.

Examples of level A-D and E impacts may include any of the following:

- One or more fatalities
- Ten or more injuries or health effects requiring hospital treatment for more than 24 hours
- Localized or extensive damage to sensitive or non-sensitive environments where remediation to restore the amenity is expected to equal or take longer than any of the time periods defined as Level E or A-D impacts
- Equipment / Property damage equal to or exceeding \$1 million (US).

Major Incident Announcement (MIA): The announcement of a health, safety, security or environmental incident in which the actual severity represents a Level A-D or E impact as defined in GDP 4.4-0001 Reporting of Incidents.

Primary Containment: A tank, vessel, pipe, rail car or equipment intended to serve as the primary container or used for the transfer of the material. Primary containers may be designed with secondary containment systems to contain and control a release. Secondary containment systems include, but are not limited to, tank dykes, curbing around process equipment, drainage collection systems into segregated oily drain systems, the outer wall of double walled tanks, etc.

Process Safety Event: An unplanned or uncontrolled loss of primary containment (LOPC) of any material including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO₂ or compressed air) from a process, or an undesired event or condition that, under slightly different circumstances, could have resulted in a LOPC of a material from a process.

Examples include:

- Loss of Primary Containment (e.g., oil spills, gas releases) from process plant
- Fires or explosions resulting from a flammable liquid or gas release
- Injuries or Fatalities resulting from a fire or explosion

This definition for Process Safety Event aligns with API Recommended Practice 754. API categorizes PSE into four Tiers:

- Tiers 1 and 2 are used to describe events with actual (as opposed to potential) consequence of varying degree.
- Tier 3 describes challenges to the barrier system that progressed along the path to harm, but stopped short of a Tier 1 or Tier 2 LOPC consequence.
- Tier 4 describes operating discipline and management system performance indicators.

When reporting an incident in IRIS that could have resulted in a LOPC from a process as per the above definition, but did not, select 'Near Miss' on the Incident Type screen and tick 'Process Safety Related - Yes' on the General Information screen. This is sometimes referred to as a *process safety near miss*.

Relevant Deployed S&OR VP: The segment S&OR VP for the region or operational area where the incident occurred.

Safe Act: An observed behavior that matches the expected safe way of working. Some examples include: Keeping hands out of line of fire, wearing the correct PPE, ensuring equipment has been made safe before working on it, use appropriate tool(s) for the task.

Security Incident: An assault, workplace violence, active shooter incident, threat, burglary, civil unrest, criminal property damage, drug/alcohol abuse/possession, robbery, security of information breach, terrorist/guerrilla activity or theft.

Unsafe Act: An observed behavior that differs from the expected safe way of working. Some examples include: Not wearing appropriate PPE where required, use of an incorrect manual handling technique, failure to verify that equipment has been made safe before working on it, passing through a restricted area or barrier without permission, override a safety system without permission.

Unsafe Condition: A condition or equipment, procedure, process operations, or working environment that could either result in an incident or make an incident more likely and/or severe. Some examples include: Blocked escape routes, inoperable pressure gauges, a loose or broken fitting, improperly constructed scaffolding, slippery walkways, a tool left on a grating that has the potential to fall, or an incorrect procedure.

<p>1.0 Incident Reporting & Classification</p>	<p>1.1 All incidents are to be reported immediately after incident identification. The basic tool for reporting all refinery HSSE incidents is IRIS.</p> <p>Refer to Appendix A for the Incident Category Classification Table.</p> <p>Refer to Appendix B for a HiPo Determination Flowchart for use with regards to incidents with a potential severity level A – E.</p> <p>Incidents entered into IRIS shall be classified based on actual and potential incident severity. Reference the following appendices for severity matrices:</p> <ul style="list-style-type: none"> • Appendix D – HSE Impact Levels • Appendix E – Business Impact Levels • Appendix F – Product Quality Incident Impact Levels • Appendix G – LOPC's of Flammables • Appendix H – LOPC's of Toxics
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	<p>1.2 BP Entity Leaders shall obtain agreement of the relevant Downstream business facing VP S&OR on the classification of actual and potential severity Level A through E incidents.</p> <p>1.3 BP Entity Leaders shall obtain agreement of the Entity Director S&OR on the classification of actual severity level F and G incidents. The agreement of the classification of severity level F incidents has been delegated from the business facing VP S&OR to the Entity Directors S&OR.</p> <p>1.4 When an initial recording of severity level is later revised due to additional or new information, the BP leader with accountability for the area or operation where the incident occurred shall confirm that the IRIS record is updated and applicable local or BP group notification is made.</p> <p>1.5 The investigation level is based upon the highest actual severity of the incident. However, the appropriate superintendent or manager may elevate the investigation level based on potential severity after consulting with the site Investigation & Learning Lead. Other issues to consider for elevation of investigation level include: incident complexity, amount of resources required to reach root cause, and incidents that involve multiple areas.</p> <p>1.6 Investigation requirements for safe operating and design limit excursions are detailed in the site procedure for safe operating and design limits (PSM 024) and align with the requirements in GDP/RM-G 5.3-0001.</p> <p>1.7 If an incident has different severity levels of health, safety, security, environmental, or business impacts, the highest severity type is to be used to determine investigation level.</p> <p>1.8 Dependent upon the actual and potential severity, incident investigations have their own unique requirements for team membership and applied investigation technique. Refer to sections 5 - 8 of this procedure for investigation requirements specific to the different levels of investigation.</p> <p>1.9 Examples of Environmental Reportable Incidents and their respective categorization level are included in Appendix I of this procedure.</p> <p>1.10 Injuries are to be reported in accordance with Appendix J of this procedure.</p>
<p>2.0 Notification</p>	<p>2.1 Incidents must be communicated to site leadership so they can provide the appropriate response, including initiation of an incident investigation.</p> <p>2.2 The BP Entity Leader, or delegate, shall make the appropriate Group Level notifications for all Category 1 level incidents in accordance with Appendix A of this procedure. Refer to Appendix C for the Group Level Notification requirements.</p> <p>2.3 The designated Investigation Leader shall promptly consult with BP</p>

	<p>Legal with regard to any incident:</p> <ul style="list-style-type: none"> a. That requires Group Notification in accordance with Appendix C and/or b. When litigation or regulatory action is possible. <p><i>This requirement enables BP Legal to advise on the BP Entity's response to the incident, including investigation requirements as defined in BP Practice 4.4-0002.</i></p> <p>2.4 Level A-E marine incident investigations required by GDP 4.4-0001 shall be brought to the attention of BP group marine authority. The site Security and Crisis superintendent will make this notification.</p>
<p>3.0 Incident Recording</p>	<p>3.1 Incidents (both with and without consequence) shall be recorded in IRIS.</p> <p>3.2 Incidents shall be classified in accordance with FIN-GDP 4.4-0001-01 HSSE & Operational Data Reporting Requirements for BP Group.</p> <p>3.3 The individual designated as the IRIS Incident Manager shall be accountable for confirming the completeness and accuracy of the incident record in IRIS.</p>
<p>4.0 Roles & Responsibilities</p>	<p>4.1 Employees: Immediately report all incidents to the appropriate supervisor, assist in mitigating the incident as appropriate, report near misses observed and take corrective actions where possible, and participate in the investigation process as requested.</p> <hr/> <p>NOTE: Operators are to note incidents in the Operator's Log for their shift.</p> <hr/> <p>4.2 Supervisors: Immediately notify the Refinery Coordinator of the incident, mitigate the incident, conduct the investigation process initial response, enter all actual incidents that occurred on their shift into IRIS within 24 hours, review the incident and proposed corrective actions with their work teams, and implement corrective actions as requested.</p> <p>4.3 Refinery Coordinators: Determine if incidents require external reporting to Agency(s) and make notification to the Emergency Operations Center (EOC) so the appropriate HSSE personnel are notified and perform external notifications to Agency(s), as appropriate. The Refinery Coordinator role is responsible for the initial investigation of incidents caused by the control system, the actions of board operators, commercial instructions or issues that involve more than one operating area. The Refinery Coordinator is also responsible to appoint the appropriate Supervisor to complete an initial investigation for product quality incidents.</p> <p>4.4 Investigation Leaders: The Investigation Leader is responsible for completing a "fit for purpose" investigation. Fit for purpose "5 Why" investigations must utilize the "5 Why" technique of root cause analysis, unless approval is granted by the Site Incident Investigation Lead. Completing the investigation includes ensuring the final report and corrective actions are approved by the Superintendent and are entered</p>

	into the IRIS record for the incident by the IRIS Incident Manager.
5.0 Category 1 Investigation Requirements	<p>5.1 Category 1 Investigations</p> <p>5.2 Shall be led by a Master (Level II) Investigation Leader; unless an exemption is documented.</p> <p>5.3 A Category 1 investigation is to take precedence over all other work activities of the Investigation Leader. The Category 1 Investigation Leader's Line Manager is to ensure the Category 1 Investigation Leader's other responsibilities are reallocated.</p> <p>5.4 Shall be conducted using the BP RCA Methodology otherwise referred to as Logic Tree.</p> <p>5.5 Category 1 investigation teams are to include a Union Representative member of the HSSE Committee (or an individual approved by the HSSE Committee).</p> <p>5.6 Category 1 investigation teams should include at least one team member knowledgeable in the process involved or with relevant expertise.</p> <p>5.7 It is an expectation that Category 1 investigation teams consist of 4 – 6 team members, as a minimum.</p> <p>5.8 During the process of a Category 1 investigation, the leader or team is required to conduct a retrospective review for similar site incidents to determine if any systemic patterns exist. The appointed investigation leader determines the appropriate extent of this review.</p> <p>5.9 Work of the investigation team is confidential. Team members should not release premature conclusions or speculations.</p> <p>5.10 The incident investigation team shall conduct the sole BP incident investigation into facts leading to the incident, and shall pursue any reasonable line of inquiry to establish evidence addressing what happened, how it happened, and why it happened.</p> <p>5.11 The final report and lessons learned 1-pager are to be issued within 60 days of the incident, unless approval is given by S&OR. If during the course of the Category 1 investigation it becomes apparent that it will not be completed within the specified timeframe, the investigation leader shall:</p> <ul style="list-style-type: none"> • Inform the person appointed as the Investigation Responsible Person; • Inform the BP Entity Leader; • Inform the Entity Director S&OR; • Inform the Relevant Deployed VP S&OR. <p>5.12 The incident investigation team should consult with BP Legal at the start of all Category 1 investigations and in any other incident investigation where the possibility of regulatory action or litigation exists.</p> <p>5.13 In the case of a fatality investigation, the relevant Deployed Head of</p>

	<p>S&OR (or delegate) shall appoint the investigation leader.</p> <p>5.14 The relevant Deployed Head of S&OR (or delegate) shall have the authority to decide that an incident (other than a fatality) is to be investigated independent of the BP Entity. In this case, the Deployed Head of S&OR (or delegate) will appoint the investigation leader.</p> <p>5.15 Category 1 investigations are to have an established Terms of Reference (TOR)</p> <p>TMP 4.4-0003 Terms of Reference (TOR) Template.</p> <p>5.16 The TOR shall be agreed between the Accountable Individual and the Investigation Leader.</p> <p>5.17 When the Accountable Individual is the Relevant Entity Leader (or delegate), the Accountable Individual shall obtain agreement from the relevant Deployed S&OR VP for the TOR.</p> <p>5.18 For Category 1 investigations, the Investigation Leader should review the “Preliminary Draft” of investigation report with the Entity Leader (BUL or delegate), Entity Director S&OR, Investigation Team, and others as defined by the Entity Leader and/or Legal (as appropriate).</p> <p>5.19 For Category 1 investigations, the Investigation Leader shall complete the following prior to issuing the Investigation report:</p> <ul style="list-style-type: none">• Consult with BP Legal (where litigation or regulatory action is possible)• Obtain the agreement of the Relevant Deployed Head of S&OR (or delegate), VP S&OR Downstream HSSE, and Entity Leader (or delegate) that the investigation report and recommendations are sufficient. <p>5.20 For Category 1 investigations, the BP Entity shall complete an investigation Lessons Learned Summary after the investigation is completed using the following template:</p> <p>TMP 4.4-0004 Investigation Lessons Summary.</p> <p>5.21 The Entity shall obtain agreement of the business facing VP S&OR on the Lessons Learned Summary prior to distribution.</p> <p>5.22 For Category 1 investigations, the Investigation Leader shall develop an action plan in response to the investigation findings.</p> <p>5.23 For Category 1 investigations, the Investigation Leader is responsible for obtaining agreement from the Relevant Deployed Head of S&OR (or delegate) to the action plan.</p> <p><i>An action plan includes actions, action owners, and due dates.</i></p> <p>5.24 The Entity Director S&OR shall provide assurance that action items are completed per the agreed action plan.</p>
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<p>6.0 High Potential (HiPo) Investigations</p>	<p>6.1 A high potential incident is an incident with a potential severity level A – E.</p> <p>6.2 Incidents classified as HiPo's can qualify to become investigated at the Category 1 incident investigation level if it is determined there likely are significant lessons learned to be discovered through the elevated investigation process.</p> <p>6.3 The decision on proper investigation level for a HiPo incident will be made by the Entity Leader (or delegate) with input from the Site Incident Investigation & Learning Lead.</p> <p>6.4 If it is determined that a HiPo is to be investigated at the Category 1 level, the Entity Leader (or delegate) should inform the business facing VP S&OR.</p> <p>6.5 If it is determined that a HiPo is to be investigated at the Category 1 level, refer to the requirements listed above for Category 1 investigations.</p> <p>6.6 Appendix B of this procedure provides guidance on classification of HiPo's.</p>
<p>7.0 Category 2 Investigations</p>	<p>7.1 Category 2 Investigations</p> <p>7.2 Should be led by a Skillful Level I Investigation Leader.</p> <p>7.3 Should be conducted using the BP RCA Methodology otherwise referred to as Logic Tree.</p> <p>7.4 Category 2 investigation teams are to include a Union Representative member of the HSSE Committee (or an individual approved by the HSSE Committee).</p> <p>7.5 Category 2 investigations shall take precedence over the appointed investigation leader and other team members normal work duties.</p> <p>7.6 Team membership should contain an appropriate mix of members from various functional areas.</p> <p>7.7 During the process of a Category 2 investigation, the leader or team is required to conduct a retrospective review for similar site incidents to determine if any systemic patterns exist. The appointed investigation leader determines the appropriate extent of this review.</p> <p>7.8 Work of the investigation team is confidential. Team members should not release premature conclusions or speculations.</p> <p>7.9 The incident investigation team shall conduct the sole BP incident investigation into facts leading to the incident, and shall pursue any reasonable line of inquiry to establish evidence addressing what happened, how it happened, and why it happened.</p> <p>7.10 The final report and lessons learned 1-pager are to be issued within 60</p>

	<p>days of the incident. If during the course of the Category 2 investigation it becomes apparent that it will not be completed within the specified timeframe, the investigation leader shall:</p> <ul style="list-style-type: none"> • Inform the site Investigation and Learning Lead; and • Inform the IRIS Incident Manager <p>7.11 The investigation leader is to ensure the IRIS Incident Manager uploads the agreed upon action items to the appropriate IRIS incident record. Each action item must have a target due date and responsible party.</p> <p>7.12 When the BP RCA methodology is selected, the Investigation Leader shall be certified as either a L1 or Master L2 investigator.</p>
<p>8.0 Category 3 Investigations</p>	<p>8.1 Category 3 Investigations</p> <p>8.2 Category 3 Investigations can be one of two types of investigation. The two types of root cause analysis for Category 3 investigations are After Action Review or the 5-Why technique, which are the Entity Defined Methods.</p> <p>Refer to Appendix A to determine the types of incidents that require an After Action Review versus a 5-Why type investigation.</p> <p>8.3 5-Why Category 3 Investigations</p> <p>8.3.1 The timetable to complete a 5-Why investigation is generally within 30 days.</p> <p>8.3.2 5-Why investigation teams should consist of 1-2 members.</p> <p>8.3.3 Refer to Appendix K for examples of the 5-Why methodology.</p> <p>8.3.4 Use SAF-058 FM03 Category 3 Report Form, available on “SAF Procedures and Forms” link on the OneToledo HSSE homepage.</p> <p>8.4 After Action Review (AAR) Category 3 Investigations</p> <p>8.4.1 AAR is a simple method for the investigation of low severity incidents or to evaluate events for learning, e.g. emergency response.</p> <p>8.4.2 After Action Reviews are facilitated conversations based around asking four questions:</p> <ol style="list-style-type: none"> 1. What was supposed to happen? 2. What actually happened? 3. Why were there differences?

	<p>4. What can we learn?</p> <p>8.4.3 The results of an After Action Review facilitated conversation are to be recorded in the appropriate IRIS Incident record</p> <p>8.4.4 Refer to Appendix L for examples of the After Action Review methodology.</p>
<p>9.0 General Investigation Requirements</p>	<p>9.1 Each incident shall have an Accountable Individual.</p> <p>9.2 The Accountable Individual shall be the Relevant Entity Leader (or delegate) except when:</p> <ul style="list-style-type: none"> • The incident involves a fatality: or • The relevant Deployed Head of S&OR so determines <hr/> <p>NOTE: In either case, the Accountable Individual shall be the relevant Deployed Head of S&OR (or delegate).</p> <hr/> <p>9.3 The Accountable Individual (or delegate) shall initiate the investigation.</p> <p>9.4 The Accountable Individual (or delegate) shall appoint the investigation leader for Category 3 investigations. For Category 3 investigations, the Accountable Individual is to be the IRIS Incident Manager.</p> <p>9.6 The Accountable Individual (or delegate) in conjunction with the site Investigation & Learning Lead shall appoint the investigation leader for Category 2 investigations.</p> <p>9.7 Investigation leaders for Category 1 & 2 investigations using the BP RCA method shall be certified as defined in the S&OR BP RCA Investigator Competency Program.</p> <p>9.8 The investigation leader shall approve the appointment of investigation team members.</p> <p>9.9 The investigation team shall not include people directly or indirectly involved in the incident.</p> <hr/> <p>NOTE: The intent is that investigation team members are independent from the incident (i.e., they were not directly involved in the incident nor have a role where their involvement in events leading up to the incident may have been a contributory factor).</p> <hr/> <p>9.10 The Relevant Entity Leader shall facilitate the provision of the resources necessary to complete the investigation.</p> <p>9.11 Following an incident, with the agreement of the relevant Deployed Head of S&OR and the Group Head of Operational Risk: Process Safety Engineering & HSE, the Accountable Individual may appoint a Senior Leader from the Line (untrained in BP RCA) to lead a BP RCA</p>

	<p>Investigation. In such cases, a BP RCA investigator certified as a Master Investigator shall be included in the investigation team with accountability for the conduct of the investigation process and producing the investigation report.</p> <p>9.12 Approved exceptions shall be recorded by the BP Entity for the area or operation where the incident occurs.</p> <ul style="list-style-type: none">• Exceptions can be recorded in IRIS <p>9.13 Upon completion of the investigation, the appointed investigation leader must review proposed findings and recommendations with the Relevant Entity Leader.</p> <p><i>For Category 1 investigations, the Relevant Entity Leader is typically the Business Unit Leader. For Category 2 & 3 investigations, the Relevant Entity Leader is typically the Superintendent of the area where the incident occurred.</i></p> <p>9.14 For BP RCA Investigations (Category 1 & 2 investigations), the Relevant Entity Leader in conjunction with the Investigation Leader shall develop and agree upon an action plan to respond to the investigation findings.</p> <p><i>An action plan includes actions, action owners, and due dates.</i></p> <p>9.15 Actions associated with an investigation shall be entered into IRIS with an action owner and due date.</p> <p>9.16 Action items for Category 2 and 3 investigations may only be extended with documented approval from the approving Responsible Leader (typically a Superintendent). Action items for Category 1 investigations may only be extended with documented approval from S&OR.</p> <p>9.17 Contractor-directed Investigations</p> <ul style="list-style-type: none">• The Accountable Individual may choose to have a contractor-directed investigation when all of the following criteria are met:<ul style="list-style-type: none">• The incident falls within Category 2 or 3 of Appendix A• The incident relates to work performed by a contractor and did not result in an injury to a BP employee.• The incident occurred outside of BP's operational control.• Agreement is obtained from the site Investigation & Learning Lead <hr/> <p>NOTE: Outside of BP's operational control is when the activity is not subject to BP direction or control.</p> <hr/>
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	<ul style="list-style-type: none"> • In circumstances where a contractor-directed investigation is chosen, the investigation is not subject to the same requirements as BP-directed investigations. • In place of these requirements, the site Investigation & Learning Lead shall: <ul style="list-style-type: none"> • Obtain the agreement from the relevant deployed S&OR VP that a BP-directed investigation is not needed; • Verify the contractor’s proposed investigation methodology and the composition of the investigation team appear sufficient given the actual and potential severity of the incident, its complexity and the potential for learning. • Obtain and review the contractor investigation report to verify that it appears to be sufficient, identify any learning(s) for BP including with respect to contractor oversight and management, and ensure a copy of the contractor-directed investigation report gets attached to the relevant IRIS incident record. • Actions for BP associated with a BP review of contractor-directed investigations shall be entered into IRIS with both an Action Owner and Due Date. <p>9.18 The site will have at least one person certified by S&OR as a Master Level II Investigation Leader.</p> <p>9.19 Completed investigations are to be attached to the appropriate IRIS record.</p> <p>9.20 All incidents should have at least one finding identified in the IRIS record following completion of the investigation.</p> <p>9.21 For incidents or near misses involving demands on Safety Instrumented Systems (SIS), a SIF (Safety Instrumented Functions) Demand Event Record (Reference SAF-058-FM09) should be completed and attached to the IRIS record. The completion of this is the responsibility of the site SIS Technical Authority or designee (such as the SIS Lifecycle Engineer).</p>
<p>10.0 Preservation of Evidence</p>	<p>10.1 Immediate steps should be taken to preserve relevant information and evidence. The Supervisor for the area where the incident occurred is responsible for the actions listed in Appendix M. Assistance may be requested from the Manager On-Call.</p> <p>10.2 Evidence that should be preserved includes:</p> <ul style="list-style-type: none"> • The scene – For investigations when BP has the ability to dictate the use of the incident scent, it shall be released for resumption of work only with the approval of the appointed investigation leader.

	<p>Documenting the scene can include photographs of the incident scene. <i>Incident scene includes, but is not limited to, machinery and access to plant, equipment and materials.</i></p> <ul style="list-style-type: none"> • Relevant documented or electronically held information. • Equipment associated with the incident. • Contact details for potential witnesses.
<p>11.0 Reporting</p>	<p>11.1 The Investigation Leader shall be accountable for the investigation report content, including findings and recommendations.</p> <p>11.2 Recommendations in an investigation report shall be capable of being actioned.</p> <p>11.3 BP-directed investigations shall not make recommendations directed to a contractor or third party.</p> <p>11.4 The Incident Record in IRIS shall be updated with information from the investigation.</p> <p>11.5 The Relevant Entity Leader receiving the investigation report shall confirm that a copy of the report is attached to the relevant Incident Record held in IRIS unless the entity is directed otherwise following consultation with BP Legal, the Group Head of Intelligence, Security and Crisis Management, or the Group Head of Operational Risk: Process Safety Engineering & HSE.</p> <p>When the BP RCA Investigation report is not to be attached to the IRIS record, the entity shall document the reason within the IRIS record.</p> <p>11.6 BP RCA investigation reports, ancillary documents and materials shall be retained for a minimum of 10 years or for any period of time that is required by either:</p> <ul style="list-style-type: none"> • Applicable legal and regulatory requirements; or • A BP Legal Hold Notice
<p>12.0 Follow-up and Communication</p>	<p>12.1 Lessons Learned Summaries, commonly referred to as “one-pagers”, for MIA & HIPO Category 1 investigations are to be distributed to the designated incident notification/distribution list (G Downstream Incident Notification) following the completion of the investigation.</p> <p>12.2 Site Wide Communication – The HSSE Department will share the Lessons Learned summaries for all Category 1 and 2 incident investigations with the Toledo workforce following completion of the investigation. Supervisors should review the summaries with their work teams to communicate the lessons learned.</p> <p>If the lessons learned are determined to be applicable to members of the contractor workforce, the lessons learned summary is to be</p>

	<p>communicated to those contract companies.</p> <p>12.3 Category 3 5-Why investigations should be communicated as applicable to the workforce by supervisors. At the request of a Superintendent, 5-Why investigation reports may also be circulated site wide by the HSSE Department.</p>
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Revision history

The following information documents at least the last 3 changes to this document, with all the changes listed for the last 6 months.

Date	Revised By	Changes
9/7/17	E. Myers	(MOC M20171713-001) Updated investigation category requirements. Reinstated lessons learned follow-up language.
12/31/16	E. Myers	(MOC M20163355-001) Changes made to reflect updates to GDP 4.4-0001 and GDP 4.4-0002 including the transition from Traction to IRIS.
6/29/15	E. Myers	(MOC M20132094-001) Updated to reflect transition to logic tree method of investigation and eliminating references to CLC.

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Appendix A: Incident Category Classification Level

Investigation Category	Incident Type	Investigation Methodology	Investigation Leader
1	Major Incidents – A health, safety, security or environmental incident in which the actual severity represents a Level A-D or E impact as defined in the severity matrices contained in Appendices D - H of this procedure	Investigation shall use BP RCA methodology (Logic Tree)	Investigation leader shall be certified as a Master Level Investigator. <i>For a list of trained / qualified BP RCA Investigators, please refer to SAF-058-RF01.</i>
	Process Safety Event (PSE) Tier 1 Incidents (<i>Refer to TWP-007A</i>)		
	Any other Incident when the Accountable Individual or relevant deployed Head of S&OR chooses to have the Incident escalated to a Category 1 due to potential severity or potential for learning		
2	Incident in which the actual severity represents a Level F impact as defined in the severity matrices contained in Appendices D – H of this procedure	Investigation should use BP RCA methodology (Logic Tree)	When BP RCA methodology is selected, the Investigation leader shall be certified as either a Skillful Investigator or a Master Level Investigator. <i>For a list of trained / qualified BP RCA Investigators, please refer to SAF-058-RF01.</i>
	PSE Tier 2 Incidents (<i>Refer to TWP-007A</i>)		
	Process Safety excursions outside a safe design limit		
	Control of Work Incidents associated with a risk of potential fatality or serious injury		
	Vehicle Rollovers		
	Incident, not already a Category 1 or 2, associated with the degradation or failure of one or more barriers to a defined “purple risk” event.		
	Any other Incident when the Accountable Individual chooses to have the Incident escalated to a Category 2 due to potential severity or potential for learning.		
3 (5 Why)	Other Incidents including the following examples: <ul style="list-style-type: none"> Recordable injuries Equipment damage (< \$100k) 	5-Why methodology	Determined by the IRIS Incident Manager.

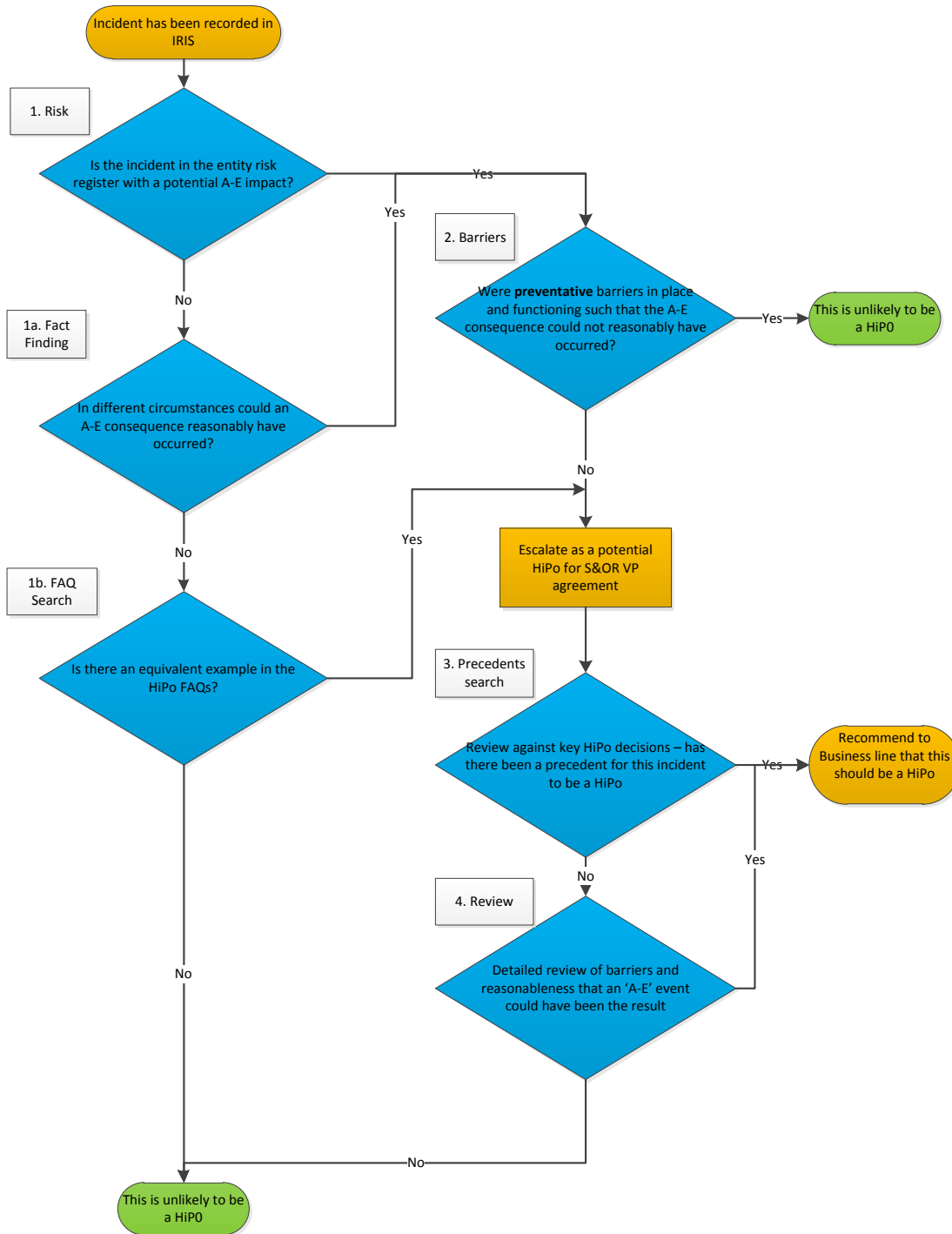
	<ul style="list-style-type: none"> • Personnel H₂S exposures 100ppm or higher • Environmental Agency Reportable Incidents • Material releases (LOPC) >1bbl/hr • PSV lifts * • SIF Demand ** • Some SOL exceedances • Product quality incident (\$50k - \$500k business value lost) 		<p>* PSV lifts should use form SAF-058-FM10</p> <p>** SIF demand should use form SAF-058-FM09</p>
<p>3 (After Action Review)</p>	<p>All other incidents, including:</p> <ul style="list-style-type: none"> • First Aid injuries • Personnel H₂S exposures/personal H₂S alarm events less than 100ppm • Material releases / LOPC's < 5 Gallons (unless elevated by management) • Equipment damage <\$25k 	<p>After Action Review</p>	<p>Determined by IRIS Incident Manager; generally AAR's should be completed by the involved employee's direct Supervisor, if applicable.</p>

Notes:

1. The intent is that the decision on Investigation level takes into account the actual and potential severity of the Incident (based on risk), its complexity and potential for learning. BP RCA can also be used to investigate themes or trends identified from the analysis of Incidents.
2. Appendix A allows for the use of simpler (fit for purpose) 'entity defined' methodologies for lower severity, less complex and lower potential learning incidents.

Refer to **BP Practice 4.4-0002 Annex A** for more information on this table

Appendix B: Principles for Assessment of Potential Severity A - E



Notes:

1. For the purpose of potential severity classification, credit is not to be taken for mitigating barriers, including emergency response
2. In this context "reasonably" is based upon the concept that an objective person would agree with the judgement.

Appendix C: Group Notification Matrix

Investigation Notification Level	What Events to Notify	Who to Notify, How and by When
Group Notification	Major Incidents – A health, safety, security or environmental incident in which the actual severity represents a Level A-D or E impact as defined in the severity matrices contained in Appendices D – H of this procedure.	E-mail using the TMP 4.4-0001 Incident Notification Form within 24 hours to: “G Downstream Incident Notification”
	Incidents with a potential severity of A-E	
	Process Safety Event (PSE) Tier 1 Incidents	
	Any other Incident when the Accountable Individual or relevant deployed Head of S&OR chooses to have the Incident escalated to a Category 1 due to potential severity or potential for learning	

Appendices D – H excluded from upload to contractor HSE website. Please contact Toledo HSSE Department for more information, if necessary.

Appendix I: Examples of Environmental Reportable Incidents

An “Environmental reportable incident” covers any incident that is reportable to a governmental agency or that is required to be reported within BP. The most common reportable items are as follows (see Environmental section of HSSE Handbook for complete list or contact the Environmental Department):

Category 3 (5-Why Investigation):

- Verified community complaint (odors, noise, etc.)
- Any reportable environmental incident that is a permit violation
- Environmental Notice of Violation (NOV) with punitive action
- Material release LOPC G (release rate 1-10 bbl/hr) or a non-agency reportable LOPC F

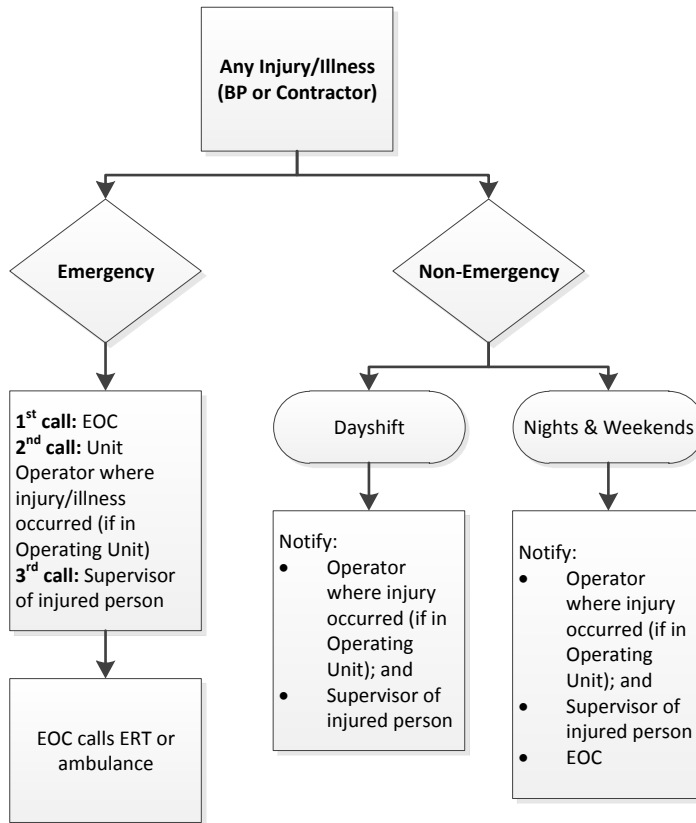
Category 2:

- Material release LOPC F (release rate 10-100 bbl/hr) that is agency reportable
- Any Category 3 environmental incident at the discretion of the appropriate superintendent or manager

Category 1:

- Uncontrolled release of light hydrocarbon (>10 tons) or H₂S (>0.5 ton)
- Incident response involving significant interaction (i.e., joint incident command) with government agencies
- Material release LOPC A-E (release rate >100 bbl/hr).

Appendix J: Injury Reporting Flowchart



Supervisor of Injured Person

Immediately notify:

- Contractor Management & Health Services Superintendent
- Safety Superintendent
- CAM (if injured person is a contractor)
- If injured person is transported offsite for evaluation (even to OCC for non-emergency) supervisor must notify the individuals listed above. If the supervisor is not able to reach the individuals listed above, leave a message with each and then call the EOC and notify them.

Operations

Process Operator

- Notify your supervisor then respond to the scene of injury.
- Make sure the scene is safe, then secure the scene for investigation.

Operations Supervisor

- Notify Area Superintendent, (for non-emergency this may be an email/voicemail).

EOC

- Notify Refinery Coordinator
- Notify Health Center if injured party or responder is in route to health center
- For medical treatment or if injured person is sent offsite, send page to HSSE Manager, Contractor Management & Health Services Superintendent, Safety Superintendent
- If BP employee sent in ambulance, contact HR or HR on-call

Appendix K: Examples of 5-Why Technique

5-WHY Examples

The **5-Why** methodology is a question-asking technique used to determine the cause/effect relationships underlying a particular problem. The objective of applying the 5-Why method is to determine a root cause of a defect or problem.

Example 1: Car won't start

1. **State the problem:** _____ (e.g., My car won't start)
2. **Why?** _____ (e.g., The battery is dead)
3. **Why?** _____ (e.g., The alternator is not working)
4. **Why?** _____ (e.g., The alternator belt has broken)
5. **Why?** _____ (e.g., The alternator belt is well beyond its useful service life)
6. **Why?** _____ (e.g., I have not been maintaining my car according to the service schedule)
7. **Corrective Action(s):** _____ (e.g., Replace belt, follow pm schedule)

Example 2: H₂S Exposure >100ppm

1. **State the problem:** Employee exposed to H₂S >100ppm (*please use actual exposure level*)
2. **Why did the employee's H₂S monitor register >100ppm?**
Employee was exposed while (enter task being performed) near/around (enter specific location of task).
3. **Why was the employee exposed?**
Employee was exposed due to release from (enter release point).
4. **Why was H₂S released from (enter release point)?**
(Enter reason for release – e.g., loose or leaking flange/connection, open valve or line, other means of exposure, etc.).
5. **Why was the (reason for release) condition present?**
(Enter reason condition was present – e.g., valve opened incorrectly, line not properly purged, etc.).
6. **Why did (identified reason) occur?**
(e.g., employee did not position themselves upwind, procedure or practice not followed, etc.).

Appendix L: After Action Review

For those investigations where After Action Review is the appropriate level of root cause analysis, the AAR template should be completed and uploaded to the appropriate IRIS record. The AAR template is available under SAF-058 on the list of Toledo Safety Procedures.

AFTER ACTION REVIEW – Record Sheet	
Incident Title:	
Location:	IRIS Record Number:
Incident Date/Time:	Submitted by:

1. **What was supposed to happen?** [Click here to enter text.](#)

2. **What actually happened?** [Click here to enter text.](#)

3. **Why were there differences?** [Click here to enter text.](#)

4. **What can we learn?** [Click here to enter text.](#)

Appendix M: Expectations of the Area Supervisor when an Incident Occurs

1. Document the date and time of the incident
2. Enter IRIS incident record
3. Secure and barricade the incident scene as appropriate. Relevant debris that may be outside of the barricaded area should also be secured. If the incident warrants an investigation, the incident scene should not be released (if reasonably possible) until the incident investigation leader (or delegate) has released it.
4. Photograph the incident scene, if appropriate.
5. Document the names of all personnel who were in the area at the time of the incident including their position, company, and contact information.
6. Obtain on-the-spot information from eyewitnesses. A written account of the incident should be obtained from each eye witness (Use Eye Witness Form SAF-058-FM07).
7. Document the weather conditions (i.e., wind speed and direction, temperature, etc.).
8. Document comments on the physical condition of the incident site (housekeeping or other).
9. Collect or make copies of the following:
 - a. Log book entries
 - b. Any sign-off procedures or general procedures which were being used or could have been used.
 - c. Relevant permits and/or work orders.
 - d. Sign-in/sign-out sheets.
10. Survey the area and record the position of relevant valves including control valves, manual valves, relief valves).
11. Relevant information should also be collected from upstream or downstream units and other processes which may have been involved in the incident. Similar information, where appropriate, should be obtained from non-process areas involved in the incident.