PIDX Supplier KPI 2.0 Transmission Standard

Implementation Guide

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Supplier Key Performance Indicators (KPIs)

2. Executive Summary

Currently, within the O&G industry, there is a lack of standardization in both the way specific supplier Key Performance Indicators (KPIs) are defined/measured as well as communicated from supplier to operator.

In some cases KPI definitions can differ between different groups within the same organization. As a result suppliers often have to provide operators with the same (or slightly different) data, in multiple formats. This causes significant redundant effort. Additionally, there is no easy way to compare KPIs across the industry.

There is also no formal process for the sharing of this information. Data is captured and shared via niche software solutions, ERPs, excel spreadsheet, word of mouth or in other cases not captured at all. Until now there has been no standard on how to communicate the variables and values of supplier KPIs.

It is important to detail in this document what a KPI is. Without general agreement of what a KPI is (and isn't) we can't hope to agree on a set of standard KPIs for this project.

One of the best examples I've come across is the following: Key Performance Indicators (KPIs) are "quantifiable measures that help decision makers **define and measure progress toward business goals**. KPI metrics translate complex measures into a **simple indicator that allows decision makers to assess the current situation and act** quickly."

The focus of this project is on a specific sub-set of KPIs, specifically KPIs that define and measure the performance of suppliers/contractors/vendors (going forward I'll use the word supplier to mean all three) to the Oil & Gas industry.

Supplier Performance Management (SPM) is a business practice that is used to measure, analyze, and manage the performance of a supplier in an effort to cut costs, alleviate risks, and drive continuous improvement.

Without KPIs operators have no objective way of knowing the performance of their suppliers, allowing both parties to take the appropriate actions. To put it another, simpler way – **If you don't measure it, you can't manage it.**

This project seeks to create industry consensus around a set of standard supplier performance KPIs and the mechanism for the appropriate sharing this information with minimal human intervention.

Standardization of each KPI will come in the form of an agreed formula and agreed definitions for each element of the formula. Transmission will be how the KPI raw data and additional header information is packaged and transmitted from supplier to operator.

3. Description

3.1 Purpose

The purpose of this phase is to create a data transfer protocol to automate the transfer of this data from supplier to operator.

3.2 Scope

Phase two will use agreed KPIs as the basis for the creation of a data transmission standard to automate the transfer of previously agreed upon and endorsed KPIs, or any supplier KPI, from the supplier to the operator.

The developed data transmission standard will in turn be available to automate the transfer of any KPI, PIDX endorsed or not.

As additional supplier KPIs are endorsed by PIDX they too will adopt the data transmission standard, but PIDX members will be free to use the standard, standalone, to automate the transfer of any supplier KPI.

3.3 Goal

The second major deliverable of Supplier KPI 2.0 is the creation of a standardized protocol for the automated transfer of this data, or any supplier KPI, from one organization to another.

The project would then focus on growing this agreed list of KPIs, iteratively, releasing similarly focused supplier performance KPIs in a timely fashion, for industry adoption.

Additionally, PIDX members could opt to only adopt the data transmission standard, utilizing the standard to automate the transfer of all their supplier KPIs

Ultimately we hope that adoption of these standardized KPIs and transmission standard will spread throughout the industry to reach critical mass.

4. Value Proposition/Business Case

Creation of data transfer protocol – Automated transfer of supplier performance KPI data will provide the largest benefits to both Suppliers and Operators. It can be reasonably assumed that automating this process will deliver:

- Financial savings – No longer requires additional manual intervention to provide data in a specific format
- Time savings – Data is entered once and then transmitted to whomever requires it; Reduced time collating supplier performance KPI data (on both sides); Reduced time preparing performance review reports
- Improved data quality – Data is entered once only. Removing additional manual intervention to share data in different formats will also remove any opportunity for 'fat fingering' data points, creating incorrect performance KPI results.
- Data is available in near real-time, providing the operator with the ability to intervene, if needed, at a much earlier stage, in turn reducing any associated risk
- Integration with existing systems. IT departments and software vendors will be able to accept supplier KPI data without manual intervention.

Improved data accuracy – Agreeing and adopting a set of standard supplier performance KPIs will increase user confidence behind what is being presented. In turn, quality data supports better, efficient decision making.

It should also mean that KPI results will be available in a more timely fashion, allowing for quicker feedback which can mean a faster response to a negative performance trend.

Benchmarking – Standard Supplier KPIs, adopted by the industry, opens up the opportunity to pursue KPI benchmarking (internally and against other similar industries).

Ability to compare – Suppliers will have apples to apples comparison of their performance, across multiple customers.

Use of agreed KPIs in contracts – Using the agreed supplier performance KPIs as part tender process will make it easier for suppliers to provide the necessary data while making it easier for the buyer to compare.

5. Sponsor and Participants

PIDX member/company sponsoring development of these specifications/this project:

Member	Company	Email Address
Tom Lennon	Chevron	tjlennon@chevron.com
Roger Bhalla	ConocoPhillips	Roger.Bhalla@conocophillips.com

6. Deliverable Schedule

Component	Status	Estimate Completion
Submitted proposed KPIs to project team	Complete	07/16/15
Sponsor agreement on initial KPIs	Complete	07/16/15
Project group ballot to accept PTP		09/04/15
S&G vote to accept PTP		09/11/15
PTP review by EC		11/02/15
Construction stage – Construct standard		11/09/15 - 12/31/15
Project team vote on standard		03/15/16
S&G vote on standard		03/22/16
EC vote on standard		03/29/16
Standard posted for public comment		04/05/16 - 05/05/16
Membership vote		05/05/16 – 05/19/16
Final standard published		05/19/16
Begin process of proposing next KPIs		05/19/16
……		

7. Anticipated Completion Date

Anticipate having the initial set of KPIs endorsed and the data transmission standard developed and agreed by the start of 2016.

8. Appendix A – Proposed KPI data & XML standard to exchange data

Header information – Additional information specific to the KPI(s) transmitted
* = Compulsory
- KPI Issued Date* – Date data was sent
- Operator Information
  - Operator Company Name*
  - Operator ID*
  - Operator Contact Name*
  - Operator Contact Email*
- Supplier Information
  - Supplier Company Name*
  - Supplier ID*
  - Supplier Contact Name*
  - Supplier Contact Email*

KPI Components
- KPI Number – System generated unique identifier*
- KPI Title – Fixed KPI Title* **From a list of the agreed KPIs. See document for associated definitions and formula**
  - *Fatal Accident Rate (FAR)*
  - *Fatal Occupational Injuries*
  - *Lost time injury frequency (LTIF)*
  - *Lost time Case Rate*
  - *Total recordable injury rate (TRIR)*
  - *OSHA Recordable Incident Rate*
  - *DART Rate (Days Away/Restricted or Job Transfer Rate)*
  - *Severity Rate*
- KPI Definition – Fixed KPI Definition* - **Based on the KPI selected it will have an associated pre-defined definition associated to it**
- KPI Formula – Fixed KPI Formula e.g. '((Number of Fatalities + Number of Lost Work Day Cases> * 1000000)/Total Hours Worked'* - **Based on the KPI selected it will have an associated pre-defined formula associated to it**
- KPI Element '1' – First element of the KPI formula e.g. '0'*
- KPI Element '2' – Second element of the KPI formula e.g. '1'*
- KPI Element '2' – Third element of the KPI formula e.g. '9833'*
- .... – As dictated by the KPI Formula*
- KPI Result – Value of the resulting calculation e.g. '101.70'*

Additional KPI attributes
- KPI Start Date – Start of time period KPI data relates to e.g. '01/01/2016*
- KPI End Date – End of time period KPI data relates to e.g. '01/31/2016*

- KPI Location*, API Number OR DUNS Number – Unique identifier that will identify location associated with KPI data, which in turn can be easily rolled up into an organizations existing hierarchy. Assumed additional attributes can be determined based on the number e.g. State or Country.
  - API Number – At least 12 digit number, assigned to every wellbore. This ensures that every drilled path can be identified
  - DUNS Number – 9 digit number assigned at the lowest org level, i.e. facility or individual site location
- KPI Additional Comment – Additional Comments relating to the KPI result
- Type of Activity – Drop down list of activity types. This list would be taken from the existing IOGP list of activity types, specifically:
  - Construction: Construction, commissioning, decommissioning
  - Diving: Diving, subsea, ROV
  - Drilling: Drilling, workover, well services
  - Lifting: Lifting, crane, rigging, deck operations
  - Maintenance: Maintenance, inspection, testing
  - Office: Office, warehouse, accommodation, catering
  - Production: Production operations
  - Seismic: Seismic/survey operations
  - Transport – Air: Transport – Air
  - Transport – Land: Transport – Land
  - Transport – Water: Transport – Water, incl. marine activity
  - Unspecified: Unspecified – other

Pre-defined KPI information
1. **KPI Name:** *Fatal Accident Rate (FAR)*
   a. **KPI Definition:** The number of company/contractor fatalities per 100,000,000 (100 million) hours worked.
   b. **KPI Formula:** (Number of Fatalities X 100,000,000) / Total Hours Worked
2. **KPI Name:** *Fatal Occupational Injuries*
   a. **KPI Definition:** The number of fatalities per 100,000 full-time workers.
   b. **KPI Formula:** (Number of Fatalities X Number of Employee Labor Hours Worked) / 200,000,000 (200 million = base for 100,000 equivalent full-time workers)
3. **KPI Name:** *Lost time injury frequency (LTIF)*
   a. **KPI Definition:** The number of lost time injuries (fatalities + lost work day cases) per 1,000,000 hours worked.
   b. **KPI Formula:** ((Number of Fatalities + Number of Lost Work Day Cases) X 1,000,000) / Total Hours Worked
4. **KPI Name:** *Lost time Case Rate*
   a. **KPI Definition:** The number of lost time cases per 100 full-time employees in any given time frame
   b. **KPI Formula:** (Number of Lost Time Cases X 200,000) / Employee

Labor Hours Worked

5. **KPI Name:** *Total recordable injury rate (TRIR)*
    a. **KPI Definition:** The number of recordable injuries (fatalities + lost work day cases + restricted work day cases + medical treatment cases) per 1,000,000 hours worked.
    b. **KPI Formula:** ((Number of Fatalities + Number of Lost Work Day Cases + Number of Restricted Work Day Cases + Number of Medical Treatment Cases) X 1,000,000) / Total Hours Worked

6. **KPI Name:** *OSHA Recordable Incident Rate*
    a. **KPI Definition:** The number of employees per 100 full-time employees that have been involved in a recordable injury or illness
    b. **KPI Formula:** (Number of OSHA Recordable Cases X 200,000) / Employee Labor Hours Worked

7. **KPI Name:** *DART Rate (Days Away/Restricted or Job Transfer Rate)*
    a. **KPI Definition:** The number of recordable incidents per 100 full time employees that resulted in lost or restrict days or job transfer due to work related injuries or illnesses
    b. **KPI Formula:** (Number of DART Incidents) X 200,000) / Employee Labor Hours Worked

8. **OSHA KPI Name:** *Severity Rate*
    a. **KPI Definition:** The number of lost days experienced as compared to the number of incidents experienced
    b. **KPI Formula:** Total Number of Lost Workdays / Total Number of Recordable Incidents

9. Appendix B - Proposed XML Standard – Example

```xml
<?xml version="1.0"?>
 <pidx>
   <pidx:SupplierKPI pidx:transactionPurposeIndicator="Original"
pidx:version="1.0">
<!—
-- Header Information required for identifying the seller and the buyer (Supplier
and Operator> --
-->
   <pidx:SupplierKPIProperties>
    <pidx:SupplierKPINumber>xxxxxxxxx</pidx:SupplierKPINumber>
    <pidx:SupplierKPIIssuedDate>2015-04-10</pidx:SupplierIssuedDate>
    <pidx:PartnerInformation partnerRoleIndicator="SoldTo">
     <pidx:PartnerIdentifier
partnerIdentifierIndicator="AssignedByBuyer">0190999560600</pidx:Partner
Identifier>
       <pidx:PartnerName>Operator Company Name</pidx:PartnerName>
       <pidx:ContactInformation contactInformationIndicator="OrderContact">
        <pidx:ContactName>Contact Name at Operator</pidx:ContactName>
        <pidx:EmailAddress>John.Doe@xxx.com</pidx:EmailAddress>
       </pidx:ContactInformation>
      </pidx:PartnerInformation>
      <pidx:PartnerInformation partnerRoleIndicator="Seller">
       <pidx:PartnerIdentifier
partnerIdentifierIndicator="AssignedByBuyer">1749879095009</pidx:Partner
Identifier>
       <pidx:PartnerName>Supplier Company Name</pidx:PartnerName>
       <pidx:ContactInformation contactInformationIndicator="OrderContact">
        <pidx:ContactName>Supplier Contact Name</pidx:ContactName>
        <pidx:EmailAddress>Supplier Contact Name email
Address</pidx:EmailAddress>
       </pidx:ContactInformation>
      </pidx:PartnerInformation>
     </pidx:SupplierKPIProperties>
<!--
        -- Details for the first KPI in this document --
-->
 <pidx:SupplierKPIDetails>
    <pidx:SupplierKPILineItem>
     <pidx:LineItemNumber>1</pidx:LineItemNumber>
     <pidx:SupplierKPITitle>
              <pidx:Class>Supplier KPI Class</pidx:Class>
       <pidx:Titel>Lost Time Injury Frequency (LTIF)</pidx:Titel>
      </pidx:SupplierKPITitle>
      <pidx:SupplierKPIDefinition>The Number of lost time injuries (fatalities +
lost work day cases) per 1,000,000 hours worked</pidx:SupplierKPIDefinition>
      <pidx:SupplierKPIFormula>((Number of Fatalities + Number of Lost Work
Day Cases> * 1000000)/Total Hours Worked</pidx:SupplierKPIFormula>
```

```xml
        <pidx:SupplierKPIFieldValue elementName="Fatalities">Number of Fatalities</pidx:SupplierKPIFieldValue>
        <pidx:SupplierKPIFieldValue elementName="Lost Work Day Cases">Number of Lost Work Day Cases</pidx:SupplierKPIFieldValue>
        <pidx:SupplierKPIFieldValue elementName="Total Hours Worked">Number of Total Hours Worked</pidx:SupplierKPIFieldValue>
            <pidx>SupplierKPICalculatedResult>Value the Supplier Calculated</pidx:SupplierKPICalculatedResult>
        <pidx:SupplierKPIStartDate>01/01/2016</pidx:SupplierKPIStartDate>
          <pidx:SupplierKPIEndDate>01/31/2016</pidx:SupplierKPIEndDate>
                <pidx:SupplierKPIAPINumber>42-501-20130-03-00</pidx:SupplierKPIAPINumber>
          <pidx:Comment>Any Comment for this KPI</pidx:comment>
        <pidx:ActivityType>Drilling: Drilling, workover, well services</pidx:ActivityType >
    </pidx:SupplierKPILineItem>
<!--
        -- Details for the second KPI in this document --
-->
    <pidx:SupplierKPILineItem>
     <pidx:LineItemNumber>2</pidx:LineItemNumber>
                    .
                    .
                    .
    </pidx:SupplierKPILineItem>
    </pidx:SupplierKIPDetails>
<!--
        -- Document Summary to verify that the correct number of KPI's were completed in the XML file
-->
    <pidx:SupplierKPISummary>
     <pidx:TotalLineItems>4</pidx:TotalLineItems>
    </pidx:SupplierKPISummary>
   </pidx:SupplierKPI>
  </pidx>
```