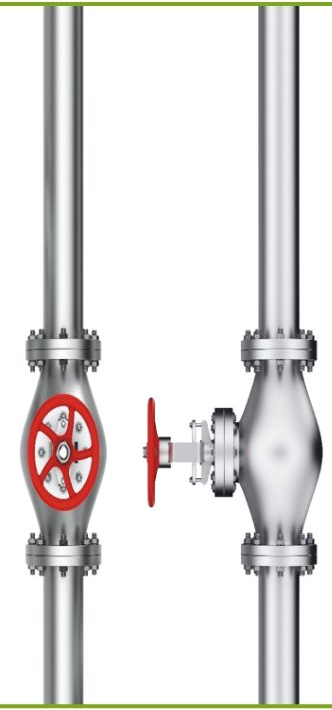
OVERVIEW OF DOWNSTREAM GROUP

TRANSPORT4

IN COLLABORATION WITH

PIDX™ INTERNATIONAL

OVERVIEW OF DOWNSTREAM GROUP



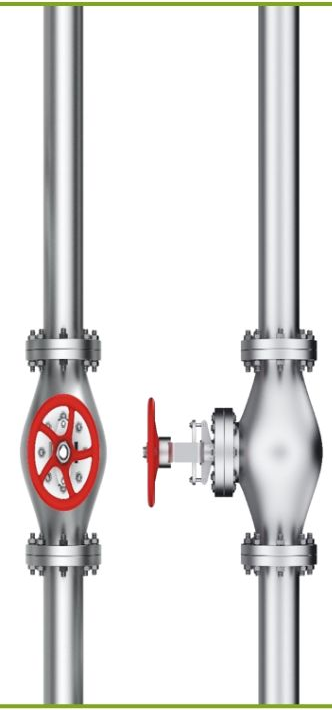
PIDX INTERNATIONAL

DOWNSTREAM GROUP

MISSION

Promote process and technology standards that facilitate seamless and efficient electronic business for downstream organizations.

OVERVIEW OF DOWNSTREAM GROUP

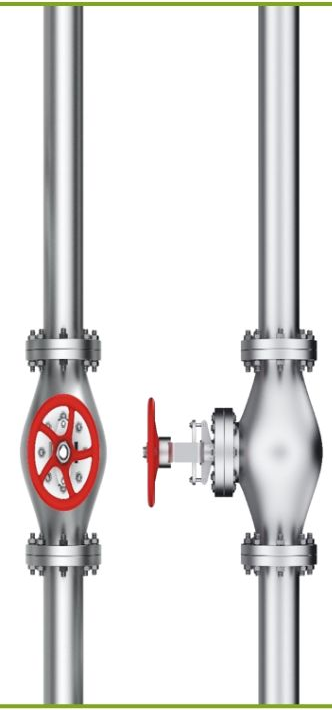


DOWNSTREAM GROUP

SCOPE

Act on membership requests to define, develop, and promote electronic business standards and processes for organizations participating in the petroleum downstream market sector.

OVERVIEW OF DOWNSTREAM GROUP

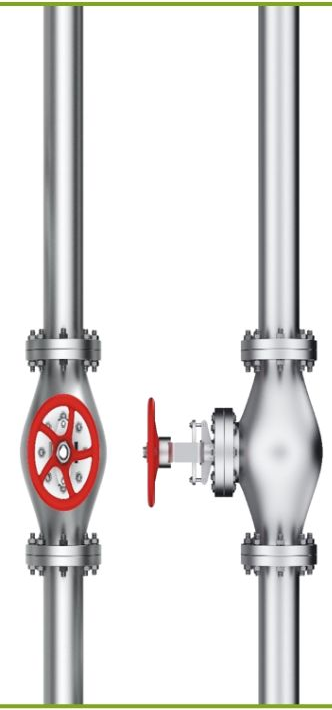


DOWNSTREAM GROUP

- Conduct meetings in full compliance of all national, regional, and local laws, regulations, and ordinances; including those of other relevant jurisdictions and subscribing to PIDX's Antitrust Compliance Guide adhering to PIDX's policy on Compliance with Antitrust Laws.

- Act within the authority prescribed by the PIDX Executive Committee.

OVERVIEW OF DOWNSTREAM GROUP

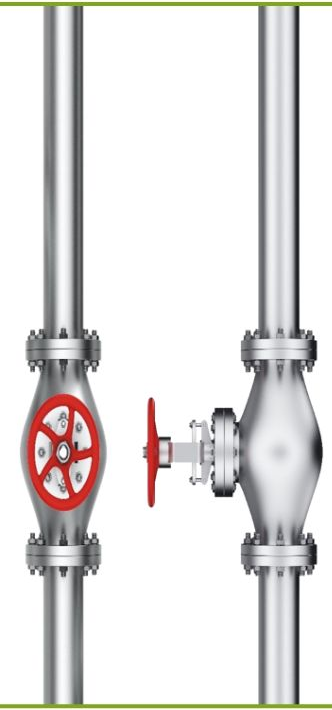


DOWNSTREAM GROUP

- General meetings are open to all interested parties, regardless of PIDX Membership Status.

- Promote participation and membership in PIDX to all interested parties with concerns in the development and maintenance of electronic business standards supporting the petroleum downstream market sector.

OVERVIEW OF DOWNSTREAM GROUP



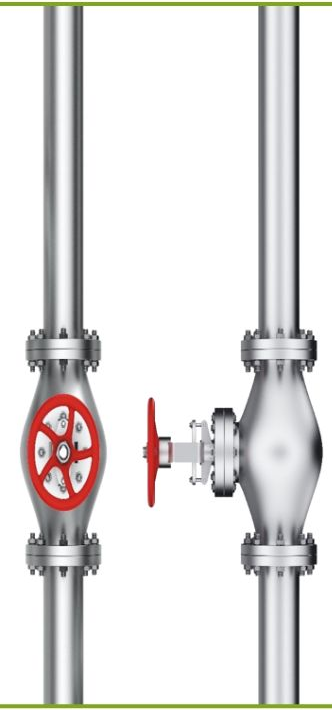
DOWNSTREAM GROUP

How we organize ourselves:

- Headed by elected officers:
- 1 Chair
- 1 Vice Chair

- Drawn from the general membership to serve a two-year term.
- The Office of Chair being approved by the PIDX Executive Committee.

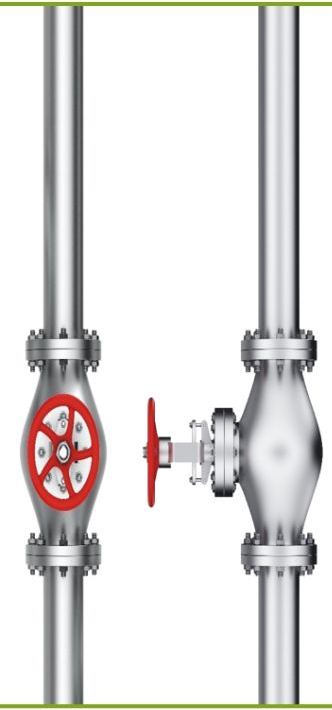
OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

- Officers, and all functional area work group leaders, will constitute a Steering Committee.
- At the discretion of the Steering Committee, special elections may be coordinated by the Steering Committee upon notification of an Elected Officer or functional area work leader vacancy. The newly elected will complete the remaining term of the vacated position.
- The Steering Committee exercises authority to create, amend, and dismiss functional area work groups or their Leader.
- The Steering Committee can at anytime call a meeting restricted to general members for discussion of Work Group business.

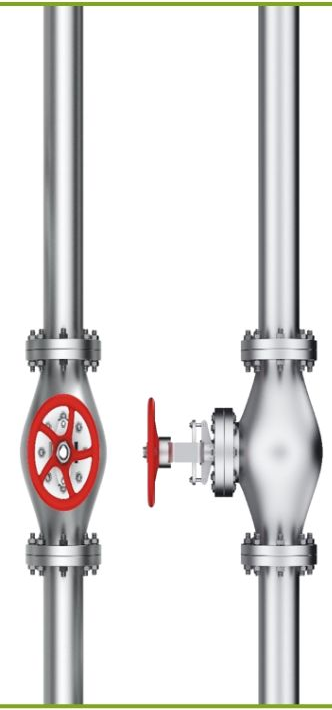
OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

- General membership is composed of PIDX Members and registered Participants interested in the development of electronic business standards supporting the petroleum downstream market sector.
- Each registered PIDX Member, in good standing, represents one vote on Work Group business and project matters.
- A Member is considered inactive by nonattendance at 3 consecutive meetings.
- Meetings may include conference calls or face-to-face gatherings.
- Any general member may submit a motion to be considered for Work Group vote

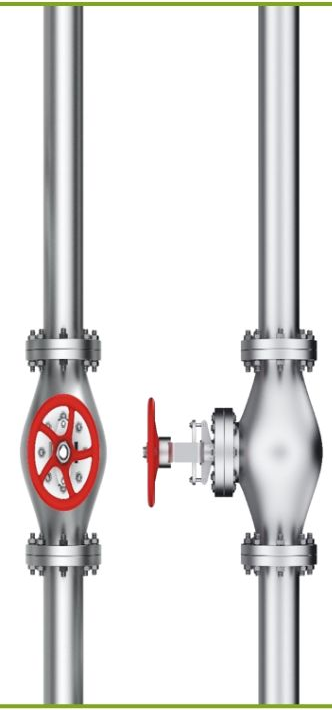
OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

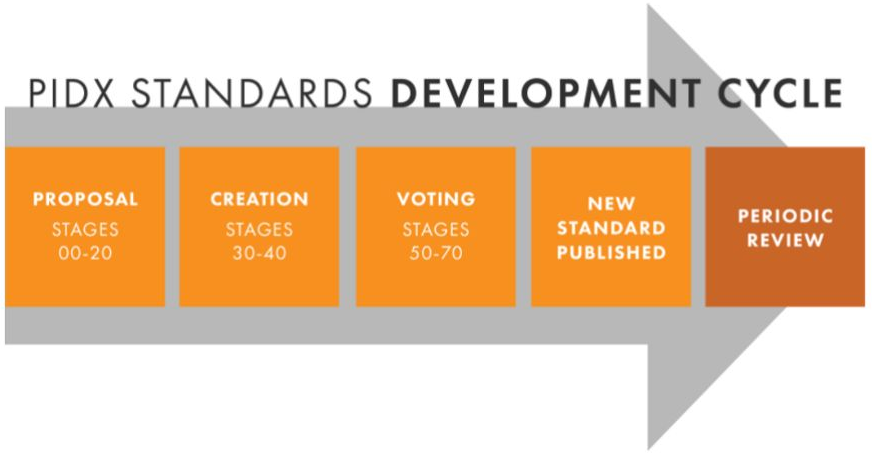
- The PIDX Downstream Committee manages master codes for the industry:
- 3,300+ Product Codes
- 1,400+ Company Codes
- 600+ Terminal Codes
- Planned Movement Regional Codes

OVERVIEW OF DOWNSTREAM GROUP



PIDX INTERNATIONAL

DOWNSTREAM GROUP



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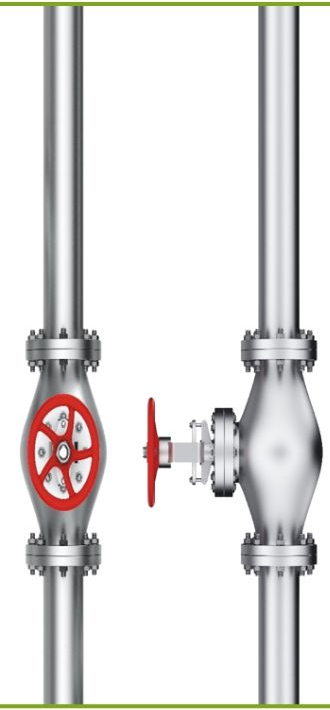
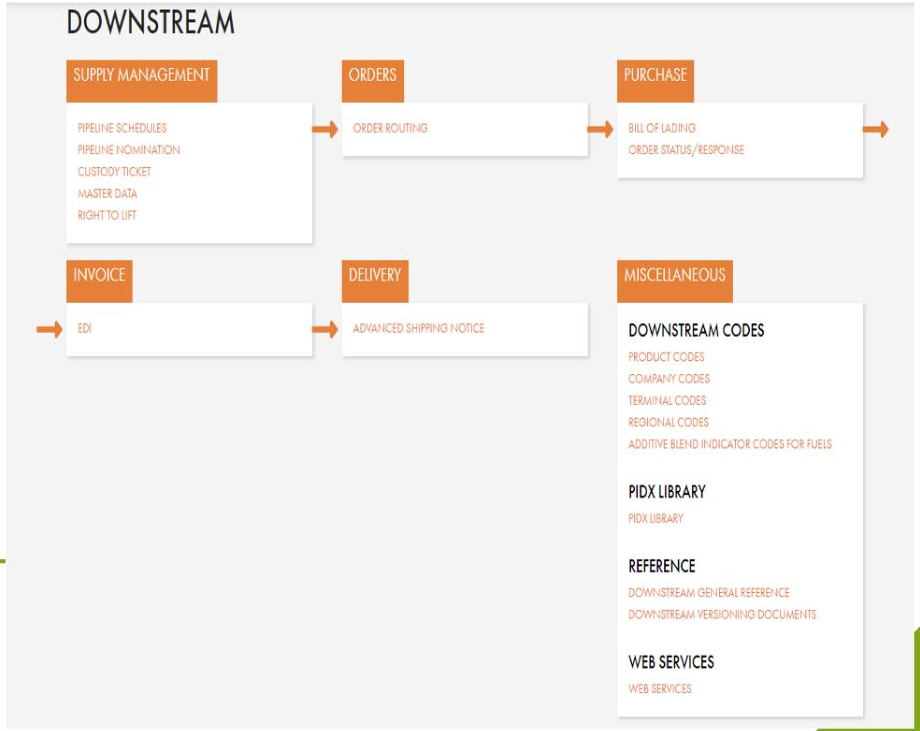


PIDX™ INTERNATIONAL

DOWNSTREAM GROUP



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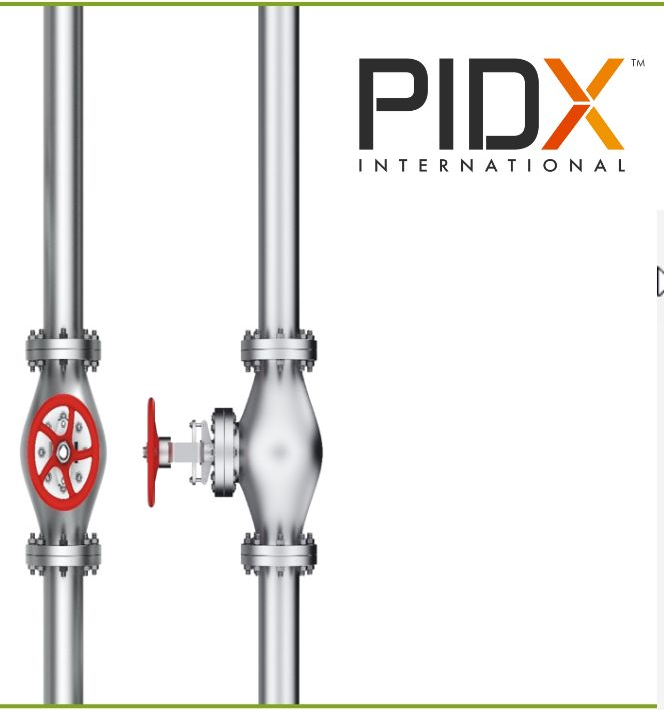


PIDX INTERNATIONAL

DOWNSTREAM GROUP

COMPLETE DOWNSTREAM SCHEMA LIBRARY

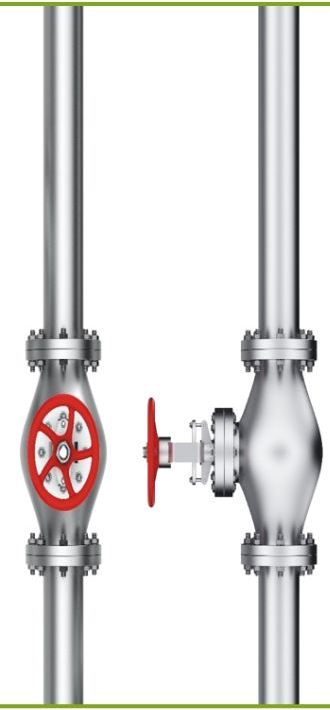
V5.02.02 XSD SCHEMA ZIP FILE

COMPLETE DOWNSTREAM SCHEMA LIBRARY V5.02.02

V5.01 XSD SCHEMA ZIP FILE

COMPLETE DOWNSTREAM SCHEMA LIBRARY V5.01

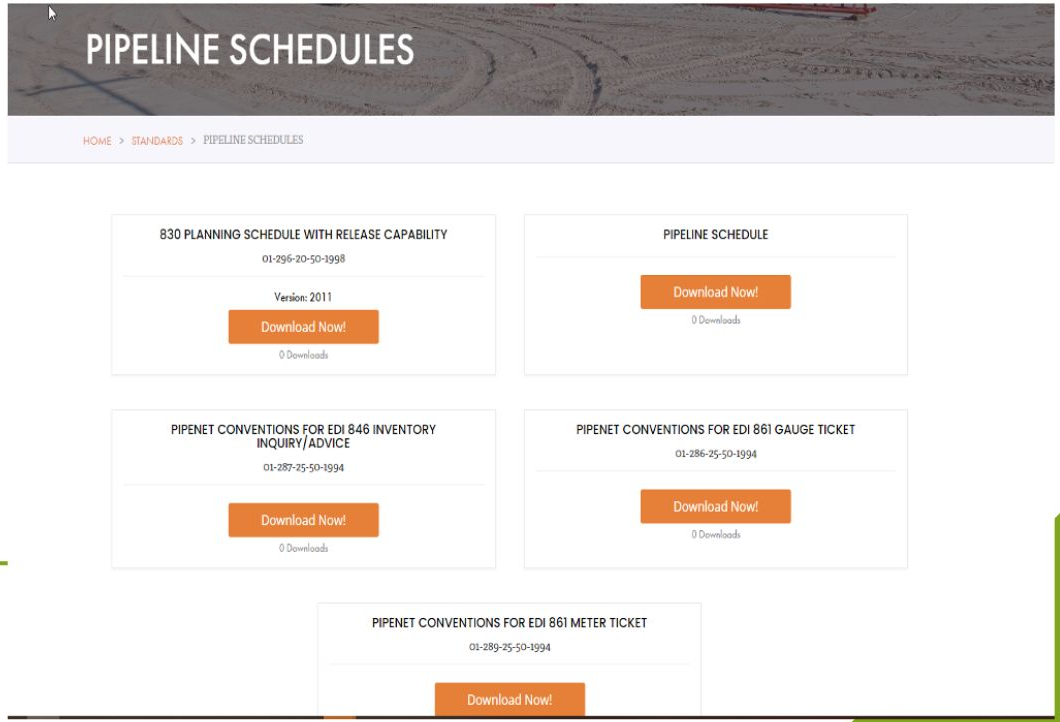
OVERVIEW OF DOWNSTREAM GROUP



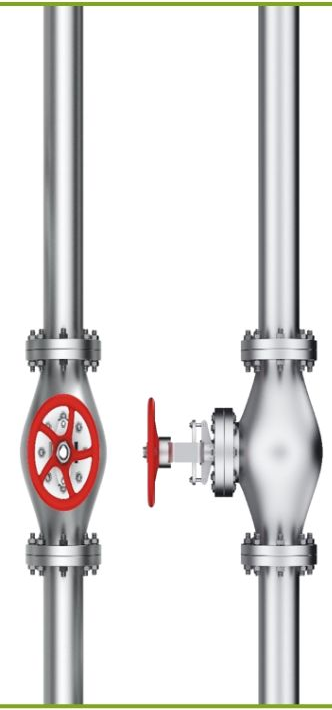
PIDX™ INTERNATIONAL

DOWNSTREAM GROUP

EXAMPLE



OVERVIEW OF DOWNSTREAM GROUP

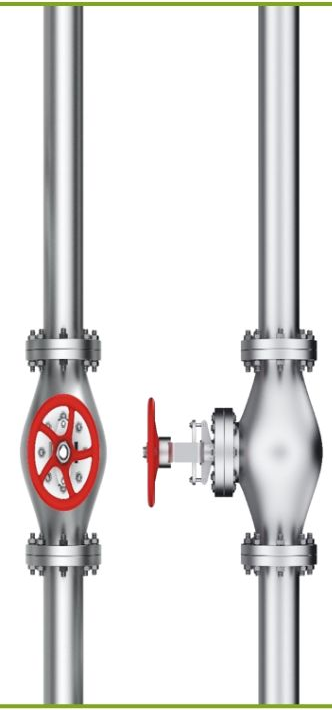


DOWNSTREAM GROUP

USE OF PIDX STANDARDS

- The PIDX Standards are technologically agnostic and are free to use.
- Used globally by the Oil & Gas industry, with no known alternative designed by and for the industry. PIDX standards have broad adoption in every continent.
- PIDX standards address specific Oil & Gas data needs that are not covered by generic B2B xml standards, such as well name, well location, field name, lease name.
- The Members determine priorities.

OVERVIEW OF DOWNSTREAM GROUP

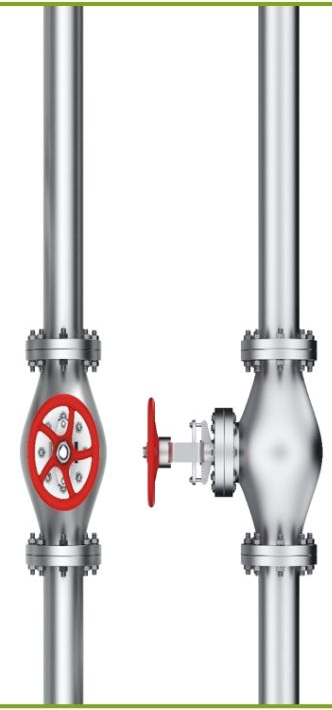


DOWNSTREAM GROUP

COLLABORATION WITH LEAP

- European counterpart
- LEAP & PIDX co-developed Standards to drive digitization
- Currently focused on Barge Demurrage

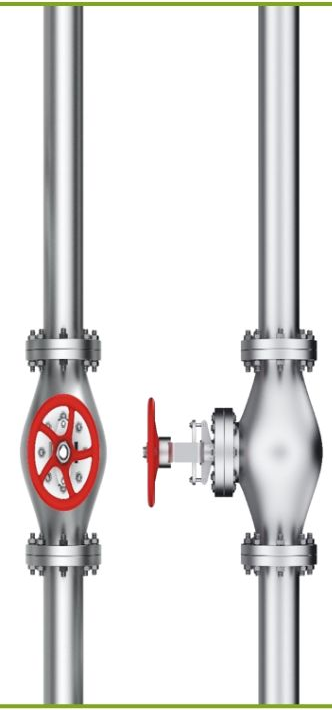
OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

- We strive to bring together more and more companies that operate in the downstream industry to agree and prioritize initiatives that offer the best improvement in our sector.
- We publish the standards that will benefit the industry and the environment and support their broad adoption.

OVERVIEW OF DOWNSTREAM GROUP

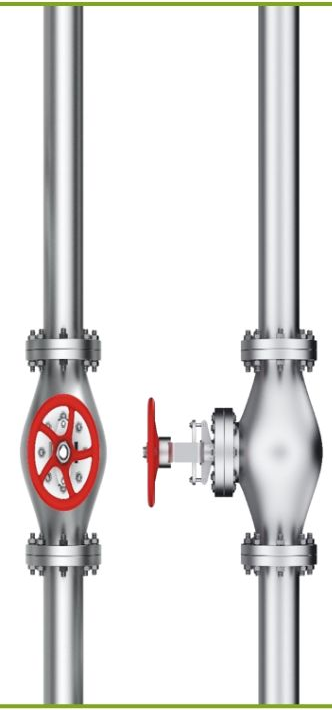


DOWNSTREAM GROUP

New focus and initiatives:

- Industrial Data Exchange (IDX)'s purpose is to build a new industrial data exchange platform by PIDX members for PIDX members.
- The initiative focuses on building API-driven and cloud-based industrial data exchange platforms to establish /share strategic data sources among the PIDX ecosystem of operators, suppliers, and IT companies.
- Terminal Visibility/Fuel Hauler Project View PTP

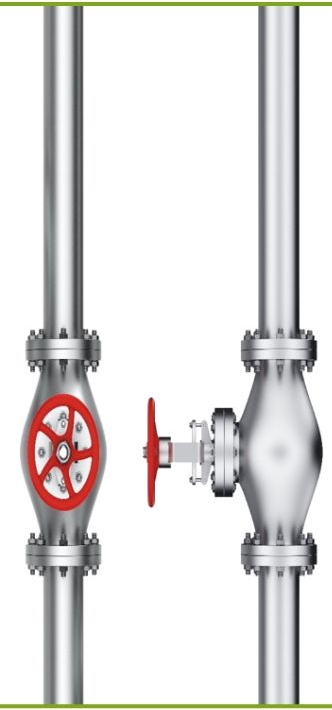
OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

- The downstream market is evolving with businesses now considering more flexible, innovative technologies and operational automatizations to support demands in market conditions.
- This rapid change is creating a growing need for standardization.
- Together we can contribute to the future success of the downstream industry.

OVERVIEW OF DOWNSTREAM GROUP



DOWNSTREAM GROUP

DRIVING FORWARD

GET INVOLVED IN THE DOWNSTREAM GROUP!

PIDX.ORG/TEAMS/WORK-GROUPS-AND-PROJECT-TEAMS

CONTACT PIDX: INFO@PIDX.ORG

832-681-7350

PIDX PRODUCT CODES

WHAT ARE THEY? WHY ARE THEY IMPORTANT?

PIDX™ INTERNATIONAL

WHAT ARE THEY?

- Product identifiers used by Downstream Industry Partners.
- Individual codes represent unique products used in the industry.

Code 1	Product definition 2	Description 3	Cetane/octane 4	Oxygenated/Carbob type 5	Oxygenate percent v % 6	Additized 7	Rvp percentage 8	Regulatory oxy % 9	Voc 10	Fungible/seg (f/s) 11	Dyes 12	Sulphur content 13	Am	M1	M2	M4	M5	M6	M7	M8	M9	M10	M11	M12	Comments 14
A20	AVIATION GASOLINE			N		Y																			100/130 LOW LEAD
A21	Unbranded Aviation Gasoline 100/LL	AVIATION GASOLINE																							AVIATION GASOLINE
A25	AVIATION GASOLINE			N		Y																			100/130 HIGH LEAD
B00	FUEL ETHANOL	ALTERNATIVE FUEL - Ed79-83		A	79-83	N	7.0-9.5		N	F	N		B	N	N	N	N	N	N	N	N	N	N	N	Ed79-83% ETHANOL/21-17% CaRFG3 CARB E85 fuel Class 2
B01	FUEL ETHANOL	ALTERNATIVE FUEL - Ed85		A	85	Y				F	N		B												Ed85 85% ETHANOL/15% REGULAR GASOLINE
B02	FUEL ETHANOL	ALTERNATIVE FUEL - Ed80		A	80	Y				F	N		B												Ed80 80% ETHANOL/20% REGULAR GASOLINE
B03	FUEL ETHANOL	ALTERNATIVE FUEL - Ed75		A	75	Y				F	N		B												Ed75 75% ETHANOL/25% REGULAR GASOLINE

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WHAT ARE THEY?

Code elements include:

- Code: One to three character alphanumeric identifier assigned by the Downstream Subcommittee.
- Product Definition: Up to 34 character alphanumeric definition of the product.
  - IE: Regular, Gas, Unleaded Regular
- Description: Up to 120 character alphanumeric description of the product.
  - IE: Conventional Carb, RBOB-Carb
- Cetane/Octane: Numeric value of cetane or octane.
- Oxygenated/RBOB Type: A single alphanumeric character indicating if the product is oxygenated and if so, with which oxygenate.
  - If the product is an RBIB, this field also describes the type of RBOB.

PIDX™ INTERNATIONAL

WHAT ARE THEY?

Code elements continued:

- Oxygenate Percent (% Volume): Percent of oxygenate.
- Additized: A single alphanumeric character indicating if the product is additized and if so, with what.
- RVP Percentage: Reid Vapor Pressure percentage.
- Regulatory OXY%: Numeric value of the Regulatory Oxy Percentage.
- VOC: A single alphanumeric character indicating whether the product is controlled by a Volatile Organic Compound Region and if so, which one.
- Fungible/Segre (F/S): A single alphanumeric character indicating whether the product is fungible or segregated.
- Dyes 12: A single alphanumeric character indicating if the product contains a dye.

PIDX™ INTERNATIONAL

WHAT ARE THEY?

Code elements continued:

- Sulphur Content 13: A numeric indication of the sulphur content of the product.
- AM (Additive Message): A single alphanumeric character indicating additized product.
- M1: Reformulated gasoline meets maximum 1.3 volume % benzene, minimum 1.5 wt % oxygen, maximum 2.7 wt % oxygen.
- M2: Reformulated gasoline meets maximum 1.3 volume % benzene, minimum 1.5 wt % oxygen, maximum 3.5 wt % oxygen.
- M1 and M2 Exceptions: Indicators for exceptions to M1 and M2.
- M4: VOC controlled for Region 1, suitable for Region 2, meets VOC reduction minimum of 32.6%.

PIDX™ INTERNATIONAL

WHAT ARE THEY?

Code elements continued:

- M5: VOC controlled for Region 2, meets VOC reduction minimum of 13.1%.
- M6: Not VOC controlled.
- M7: Oxy Fuels Program RFG.
- M8: Not Oxy Fuels Program RFG.
- M9: Conventional Gasoline – not meeting the requirements for reformulated gasoline and cannot be used in any reformulated area.
- M10: Reformulated gasoline blendstock, meets maximum 1.3 wt % benzene.
  - Cannot be combined with RFG or any other RBOB except other RBOB having the same requirements for oxygenate types and amounts.
- M11: Blend RBOB with any oxygenate to 2.0 wt % and 5.7 vol % oxygen content.

PIDX™ INTERNATIONAL

WHAT ARE THEY?

Code elements continued:

- M12: Blend RBOB with any oxygenate to 2.0 wt % and 10.8 vol % oxygen content.
- Comments 14: Additional information about the product.
- State Code 15: Unused in Downstream EDI.
- Requester 15: Person who requested the product code.
- Company 17: Company that requested the product code.
- Date Code Assigned 18: Date the code was created.

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WHY ARE THEY IMPORTANT?

Standardized codes provide:

- Consistency: Product code identifies the same product for all terminals/suppliers/customers.
- Repeatability: Product code can be used across multiple terminals/suppliers to represent one product being loaded.
- Transparency/clarity of product definitions: No guessing what product was actually loaded.
- Improves business process efficiencies.
    - Fewer exceptions to be processed manually in your back office.
    - Increased productivity.
    - Reduced costs.
- Better data exchange.
    - Information passing between partners is consistent.

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CHALLENGES

- Terminals/Suppliers are not always consistent.
  - Established codes not used for the same product across all terminals.
    - Causes confusion if a code means something different at two separate terminals.
    - Additional work for suppliers, customers and vendors to keep their back office updated.
- Terminals/Suppliers use non-established codes.
  - Terminals/suppliers create codes at their own discretion.
    - Parties using the Product Code list from PIDX are unable to locate/identify codes being transmitted.
      - Causes additional work to determine/identify what the code is and maintain it in back office systems.

PIDX™ INTERNATIONAL

SOLUTIONS

- Increase awareness of process to request a new code.
  - Existing codes can be found at:
    - https://pidx.org/standards/downstream/product-codes/
  - New codes can be requested by:
    - Filling out the attached spreadsheet and emailing a copy to productcodes@pidx.org.
    - Downstream committee will identify the code to be assigned to the new product.
      - Downstream committee will reply to you with the new code.
    - PIDX will update the Product Code l on the website.

Microsoft Excel
97-2003 Workshee

PIDX™ INTERNATIONAL

SOLUTIONS

Long Term Goals:

- Build an API – driven solution for PIDX codes.
  - Existing process is manually driven.
  - API should support a single, clarified protocol for providing key data sets to terminals.

Steps to consider:

- Compare codes being used by Data Clearing Houses to the master list.
- Identify codes being used by terminals/suppliers not on the master list.
  - Determine how to handle codes missing from the master list and duplicated codes.
  - Identify a plan for handling non-standard codes.
    - Further define attributes/requirements to create a code.
    - Determine if non-standard/"bad" codes can be added to the master list.

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QUESTIONS?