



## Australian Pipelines and Gas Association

# Offshore Pipeline Engineer Competency Standards

ID	Competency name	General	Design	Construction	Operations	Level
<b>General engineering</b>						
OGE001	Engineering degree in a relevant discipline	x				Core
OGE002	Offshore pipeline engineering fundamentals	x				Core
OGE003	Technical governance	x				Core
OGE004	Industry background and knowledge	x				Core
<b>Flow assurance and process engineering</b>						
OFA001	Flow assurance fundamentals		x		x	Core
OFA002	Process engineering fundamentals		x		x	Elective
<b>Materials, welding and corrosion</b>						
OCC001	Corrosion control and materials engineering fundamentals		x		x	Core
OCC002	Internal corrosion and control		x		x	Elective
OCC003	External corrosion and control		x		x	Elective
OCC004	Materials selection and engineering		x		x	Elective
OCC005	Welding processes and design considerations		x	x	x	Elective
OCC006	Erosion mechanisms and control		x		x	Elective
<b>Safety management and risk assessment</b>						
ORS001	Risk management fundamentals		x	x	x	Core
ORS002	Safety management fundamentals		x	x	x	Core
ORS003	External impact quantitative risk assessment		x	x	x	Elective
ORS004	Pipeline safety cases		x	x	x	Elective
<b>Environment and heritage</b>						
OEH001	Environment and heritage: identification and assessment of issues		x	x	x	Core
OEH002	Environment and heritage - management and control		x	x	x	Elective
OEH003	Legislative processes (environment, heritage and tenure)		x	x	x	Elective

ID	Competency name	General	Design	Construction	Operations	Level
<b>Design of offshore pipeline systems</b>						
ODP001	Offshore pipeline system fundamentals		x	x	x	Core
ODP002	Onshore pipeline system fundamentals (interface with offshore)		x	x	x	Core
ODP003	Geotechnical engineering fundamentals		x	x	x	Core
ODP004	Metocean data fundamentals		x	x	x	Core
ODP005	Route selection and alignment sheet engineering		x	x		Core
ODP006	Mechanical design of rigid offshore pipeline systems		x	x		Core
ODP007	Pipeline stabilisation design		x	x		Core
ODP008	Pipeline crossings design		x	x		Elective
ODP009	Pipeline shore crossing design		x	x		Elective
ODP010	Pipeline buckling and walking		x			Elective
ODP011	Procurement / construction / design specification preparation		x	x		Core
ODP012	Instrumentation and controls		x			Elective
ODP013	Pipeline external impact protection design		x	x		Core
ODP014	Flexible flowlines		x	x		Elective
<b>Design of pipeline related structures</b>						
ODS001	Design of related structures fundamentals		x	x	x	Core
ODS002	Interfacing with subsea structures		x	x	x	Elective
ODS003	Pipeline fittings (tees, wyes)		x	x	x	Elective
<b>Design of risers (rigid, flexible, SCRs)</b>						
ODR001	Design of risers fundamentals		x	x	x	Core
ODR002	Riser system design		x	x	x	Elective
<b>Construction engineering and management</b>						
OCE001	Pipeline construction fundamentals		x	x	x	Core
OCE002	Pipeline installation engineering and analysis		x	x		Elective
OCE003	Construction vessels and equipment		x	x		Core
OCE004	Pipeline tie-ins (spools, connections, hot tap)		x	x		Elective
OCE005	Riser installation		x	x		Elective
<b>Offshore pipeline project management</b>						
OPM001	Pipeline project management fundamentals		x	x	x	Core
OPM002	Commercial aspects of pipeline projects		x	x	x	Core
OPM003	Project execution planning		x	x	x	Elective
OPM004	Contracting strategy and management		x	x	x	Elective

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<b>Pre-commissioning and commissioning</b>						
OHC001	Offshore pipeline pre-commissioning		x	x	x	Core
OHC002	Offshore pipeline commissioning		x	x	x	Elective
<b>Pipeline asset management</b>						
OAM001	Pipeline asset management fundamentals		x	x	x	Core
OAM002	Risk based integrity management process				x	Elective
OAM003	Inspection and monitoring systems				x	Core
OAM004	Fitness for service and engineering assessments		x		x	Elective
OAM005	Pipeline repair and recommissioning			x	x	Elective
OAM006	Design and operating conditions (MAOP, safety systems, etc.)				x	Core
OAM007	Operational and intelligent pigging				x	Elective
OAM008	Decommissioning		x	x	x	Elective