<table>
<thead>
<tr>
<th>TSC Category</th>
<th>Energy Management Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSC</td>
<td>Network Simulation and Analysis</td>
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<tr>
<td>TSC Description</td>
<td>Analyse the natural gas network to coordinate bookings of available capacities, maintain optimal performance settings and drive enhancements to the network</td>
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<tr>
<td>TSC Proficiency Description</td>
<td>Level 1</td>
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<td>EPW-EMO-2013-1.1</td>
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</tbody>
</table>
| Knowledge          | - Gas network processes  
|                    | - Types and components of gas networks  
|                    | - Principles of gas network monitoring systems  
|                    | - Principles of gas flow dynamics  
|                    | - Principles of gas network analysis  
|                    | - Procedures for monitoring gas networks  
|                    | - Modelling and simulation tools and methods for gas networks  
|                    | - Principles of gas flow dynamics  
|                    | - Data elements of network analysis  
|                    | - Principles of gas flow dynamics  
|                    | - Principles of gas network analysis  
|                    | - Procedures for monitoring gas networks  
|                    | - Principles of gas flow load characteristics analysis  
|                    | - Formulae relating to calculations for gas flow dynamics  
|                    | - Network optimisation principles  
|                    | - Gas capacities analysis techniques  
|                    | - Gas network system design settings and principles  
|                    | - International best practice and emerging trends  
|                    | - Applicable regulations codes and standards  
| Abilities          | - Prepare pressure gauges and monitoring equipment for monitoring and analyses  
|                    | - Perform gas system network monitoring  
|                    | - Determine flow dynamics of gas networks  
|                    | - Record gas network information  
|                    | - Maintain historical information in Supervisory Control and Data Acquisition (SCADA) monitoring systems  
|                    | - Analyse data from Supervisory Control and Data Acquisition (SCADA) systems and determine gas demand and capacity  
|                    | - Perform monitoring of gas system networks  
|                    | - Perform gas network system analyses and simulations  
|                    | - Coordinate bookings of gas network available capacities by end users  
|                    | - Review gas network system analyses and simulations on available capacities  
|                    | - Resolve complex conflicts in bookings of available gas network capacities and availability of shippers  
|                    | - Adjust pressure network settings for gas networks to achieve optimal performance  
|                    | - Integrate systems and streamline work processes to drive enhancement of network health  
|                    | - Establish key performance indicators to evaluate robustness of gas network systems  
|                    | - Review gas network systems to identify potential synergy of Supervisory Control and Data Acquisition (SCADA) monitoring and
## Data Acquisition (SCADA) systems
- Assist in gas network analysis on shipper nominations
- and availability of shippers
- Define gas flow load characteristics according to gas supply system design
- Interpret and explain results including anomalies in outputs
- Assess risks based on simulation outputs

### Range of Application
Range of application includes, but is not limited to:
- Supervisory Control and Data Acquisition (SCADA)
- Gas Transportation IT System Solution (GTSS)
- Online pipeline simulation
- Global fleet management systems
- Gas and electricity mapping systems