



Distribution Code Review Panel

Guideline for Electricity Meter Type Approval Pre-Qualification Procedure

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The Panel Established Pursuant to Article (90) of
Royal Decree 78/2004

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Introduction:

Distribution Code Review Panel (DCRP) welcomes all suppliers, agents & manufacturers to submit prequalification documents for of Electricity Meters Approval intended for use as in electricity distribution network (below 132 KV) or for customer energy revenue meters by Distribution Company and in its Advanced Metering Infrastructure System. Our aim is to approve products complying to national/international standards & to enhance distribution network with quality products of latest technology in Oman.

The guideline describes the procedure related to registering new or renew approval of electricity Meters (below 132 KV) in Distribution Code Review Panel's (DCRP) records or suspending an approved electricity Meter product. It also describes the process flow during the entire technical evaluation period.

It is important to highlight the following:

1. According to Services Cooperation program for Type Approval Issuance for Electrical Energy Meters, mutually agreed between Ministry of Commerce, Industry, and Investment Promotion MoCIIP represented by Directorate General for Standards & Metrology (DGSM), The Authority for Public Services Regulation (APSR) and DCRP, the DCRP role is to evaluate the application files for type approval and to raise the recommendation to MoCIIP (DGSM).
2. Final Approval will be issued by MoCIIP (DGSM).
3. DCRP is responsible of evaluating type approval for electricity meters Hardware, firmware and communication model.
4. Manufacturers shall submit Compliance certificates of Communication Protocols & cyber security requirements according to Metering System Cyber Security Standard from accepted third party body.

5. Manufacturer/ Supplier shall be processed Communication Protocols & Cyber Security requirements verification with Licensed Distribution System Operators according to Electricity Metering System Cyber Security Standard & Regulation.
6. The Metering Working Group (MWG) are members form DCRP, Electricity Distribution Company, NAMA Dhofar Services Company and DGSM. The working group is responsible for processing technical evaluation of electricity meters type approval applications and raising recommendations to DCRP members.

The following is a summary of procedure:



Technical Evaluation stages

Product evaluation undergoes nine major stages, four of them been indicated at guideline of minimum requirements. The progress of evaluation will depend mainly upon the supplier/agent/manufacturers response to remarks raised by DCRP Evaluator and MWG. As the product is in line with the requirement of the Oman Standard (OS) and the relevant specifications and under the condition that the supplier/agent/manufacturers have presented documents as per this procedure guideline, then evaluation would not encounter delay.

The evaluation stages are as follows:

Stage-1: Technical Requirements Review:

All Electricity metering equipment shall meet the minimum requirements stipulated in Oman Standards OS1647 "Technical Standard for Electricity Metering Systems", OS1648 "Technical Standard for Electricity Prepayment Metering System", Metering Cyber Security Standard issued by APSR and NAMA Energy Smart Meters Specification.

- OS are available for purchase from Ministry of Commerce, Industry, and Investment Promotion (MoCIIP) <http://dgsm.gso.org.sa/store/>

- OES & Metering Cyber Security standards are available for free download from APSR Website (<https://apsr.om/>).

Moreover, all electricity metering equipment shall be suitable for operation in the electrical system and environmental conditions specified in OES 11 "General Specification for Electrical Materials and Equipment". Suppliers, agents & manufacturers shall review the standards/specifications carefully before applying for product approval. Guaranteed Technical Particular (GTP) shall be submitted and deviation list shall be declared in case of any deviations to OES requirements as per **Annexure B**.

Stage-2: Testing & certification review

1. Applicants must submit recent type tests, special tests, routine test certificates & reports, (HALT) test from an internationally acclaimed independent third-party Laboratory which is ISO/IEC 17025 certified. The laboratory shall be certified in all operating standards. Test procedure / protocol / methodology shall be illustrated with schematic diagrams showing connectivity of equipment under test. The tests shall comply with OS requirements, IEC tests procedure & requirements as a minimum. Partial testing shall not be acceptable.

2. All type tests submitted shall be done under the name of manufacturer, model/ type, and country of origin.
3. Manufacturer Declaration letter shall be supported by Third-party body Compliance Certificate to Electricity Metering System communication protocols & Cyber Security standard.
4. Inspecting Type tests externally must be conducted by independent third-party Laboratory and shall be ISO 17020 certified.
5. Type test certificates/reports for new products shall not exceed more than Five years from the submission date.
6. Recalled /Renewed product with Type Tests passing more than Five years shall be accompanied by Manufacturer's Undertaking letter confirming that no change or modification in design since it is type tested. However, in case of technical amendments in relative standard or in case of modification on product design, the manufacture/ supplier shall repeat the effected type tests.
7. In case manufacturer has not conducted type tests on the same specifications/model/ratings as per OS, then DCRP would advise conducting those type tests under DCRP Auditors representatives witness supervision.

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Stage-3: Technical Drawing & other Review

3.1 Product Technical Drawings

General assembly of product, Parts' drawings & Typical Connection arrangements shall be submitted. Drawings shall be very clear & self-explanatory. Legend & symbols explanation must be provided. For clarity purpose, all drawings from the manufacturer shall be presented with colour prints at A3 paper size.

3.2 Product/equipment sub-supplier/raw materials

DCRP insist to submit product/equipment sub-supplier/raw materials list as detailed in **Annexure C**

3.3 Product Salient Features

Manufacturers are encouraged to highlight technical strengths & features of their products in term of design and other features. Therefore, salient features list of products shall be filled & submitted as per **Annexure D**.

3.4 Manufacturer Undertaking letters.

Manufacturer undertakes letters on product & factory location must be enclosed as per guideline of minimum requirement.

Stage-4: Product Performance review & Supply Reference:

4.1 Product performance

Products shall be subjected to installation in Oman or GCC for a period if no reference of installation is provided in Oman or GCC. The DCRP has the right to request for a free of cost sample installation as per Annexure F.

The selection of location for sample installation shall be determined by MWG.

4.2 Product Supply Details

Supplier/agent/manufacturer experience & list of clients in Oman, GCC, Middle East & Other countries with total number of Units installed on each country & year of supply has to be presented.

Product Specific Requirement Table (PSRT) may assist to classify minimum information & experience period required for each product to be eligible for use in Oman as per **Annexure E**.

Stage-5: Review & Recommendations

MWG members meet quarterly in a year, as a minimum, prior to DCRP members' meetings. However, if MWG members are satisfied with technical evaluation outcomes & compliance of the product to relative OS requirements, will be proceeding further & to conduct factory audit visit as detailed in the following stage. However, it shall be taking into consideration that in case of application rejection, it is not allowed to apply for the same product within six months from the date of rejection (all rejected applications are registered in DCRP).

Stage 6: Factory Audit Visit & Feedback

MWG recommendation after the initial review shall be transferred officially to the supplier/Manufacturer through DCRP office.

If it is recommended to conduct Factory Audit Visit, DCRP Secretary shall officially inform the supplier/manufacturer to be prepared for the visit. The audit shall be processed by Three nominated engineers (DCRP Auditors) as a minimum.

Manufacturer/ Supplier shall cover travel expenses & its arrangement according to the Product Approval Procedure.

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Stage 7: PAWG Final Review & Recommendation

After conducting factory audit visit, the outcomes of visit shall be presented to the MWG members in their next meeting for final recommendation.

The MWG will prepare complete analysis in form of evaluation report & should present the product to DCRP Meeting. If DCRP members are satisfied with Factory Audit outcome, they will recommend proceeding for next step (Integration with Headend System).

Stage 8: Integration with Headend System

This step is mandatory to ensure that the product is in full compliance and integrated with existing Headend systems (HESs). This step will be supervised by HES owner, and they are responsible to certify any product and ensure its integration with their system. Any integration fees required in this step will be bear by the Energy Smart Meter manufacturer/supplier.

The HES owner's recommendation will be reviewed and evaluated by MWG.

DCRP members will review the results & would provide recommendation as per voting system adopted.

DCRP recommendation shall not to be considered as final approval / rejection.

DCRP Recommendation with supporting documents

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Stage 9: DCRP Review & Final Recommendation

After verifying the Integration with Headend System, MWG representative raise final recommendation to DCRP members.

DCRP members will review the results & would provide recommendation as per voting system adopted.

DCRP recommendation shall not to be considered as final approval / rejection.

DCRP Recommendation with supporting documents shall be raised to MoCIIP for final approval.

The final decision taken by MoCIIP, shall be formally conveyed to DCRP and the manufacturer/supplier.



Approval Granting

➤ Products New Approval

- The final approval shall be granted by DGSM according to DCRP recommendation.
- Certificate of Approval along with all product details will be issued by DGSM.
- MoCIIP will send copy of Certificate of approval to DCRP to register the product in the Products Active list.
- The following shall be considered regarding MoCIIP Certificate of Approval:
- MoCIIP Certificate of Approval will be issued (Certification Fees to be paid to MoCIIP as per Ministry Regulation)
- The Certificate of Approval is valid for Three years.

The following shall be attached along with the certificate & shall never be separated:

- Technical Checklist
- Technical Guaranteed Particulars
- Detailed Drawings
- Summary of Tests
- Major Part's sub-supplier list, if applicable.
- Salient Features

(Note: all attachments should be sealed by DGSM).

➤ Products Approval Renewal

- Six months prior to the expiry date of the certificate, local agent/supplier & manufacturer are responsible to furnish to DCRP all relevant documentations requesting reviewing qualification documents for MoCIIP (DGSM) certificate renewal purpose.
- The renewal of product approval is going to consider the following:
- Product Performance in the distribution network.
- Approved design & if there is any modification on it.
- Update in related standards and specifications.
- DCRP has the right to request for factory audit if the product has negative feedback collected from distribution companies, as per clause 2 Stage 6.
- Expired product approval certificate for more than 2 years the product shall be considered as a new application for approval.
- Registration / Renewal fees are the same as that for new registration.
- DCRP has the right to request for conducting type tests partially or fully, in case of design modification or quality issue.

➤ Adding/ Changing Major Parts in

Approved Major parts sub supplier list:

According to manufacturer request to add new major parts or to remove major parts from the approved Major Parts sub-supplier list within validity period of MoCIIP (DGSM) Certificate of Approval, the following shall be complied:

- The manufacturer shall submit an official request letter describing the need to include new parts or removed parts from the approved Major Parts sub-supplier list.
- Manufacturer shall submit recent type test reports of the new requested major parts.
- Manufacturer request shall be reviewed by MWG for acceptance or rejection.
- MWG recommendation shall be raised for DCRP members for final recommendation, and the same shall be raised to MoCIIP (DGSM) for final acceptance and to add/change major parts in approved major parts sub supplier list.
- **Fees to be paid according to Fees clause..**

➤ Adding new product type/Rating/ Model/ series

According to manufacturer request to add new product type/Model/ Series to the approved product within validity period of MoCIIP (DGSM) Certificate of Approval, the following shall be complied:

- Manufacturer shall submit an official request letter describing the need to include new type/Rating/Model/ Series to the approved certificate.
- Manufacturer shall submit recent type test reports of the new requested type/Rating/Model/ Series.
- Manufacturer request shall be reviewed by MWG for acceptance or rejection.
- MWG recommendation shall be raised for DCRP members for final recommendation,
- and the same shall be raised to MoCIIP (DGSM) for final acceptance to add product type/Model/ Series
- to the approved product within validity period of MoCIIP Certificate of Approval.
- The approved Certificate will be amended accordingly with same validity date.
- **Fees to be paid according to Fees clause..**

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➤ Change approved Agent's name or Approved Manufacturer's name / Add new Agent

▪ **Changing approved agent's name or approved manufacturer's name**

- Manufacturer shall submit official request to change approved agent's name or approved manufacturer's name for the same approved product within three years of approval certificate validity.
- Manufacturer request shall be reviewed by MWG for acceptance or rejection.
- MWG recommendation shall be raised for DCRP members for final recommendation, and the same shall be raised to MoCIIP (DGSM) for final acceptance to changing approved agent name or approved manufacturer name for the same approved product within 5 years of approval certificate validity,
- The certificate & it's all documents shall be updated as required with new name of manufacturer/ agent with same original certificate validity date.
- Fees to be paid according to Fees clause.

▪ **Adding new agent for the same approved product, within Three years of approval certificate validity, the following shall be met:**

- Ministry of Commerce, Industry, and Investment Promotion Regulations.
- Manufacturer shall submit official request letter highlighting the details of new agent and supported by Valid Agency Certificate.
- The new agent shall submit the following documents:
 - Request Letter and valid copy of Agency Certificate.
 - All certificate documents attested by the manufacturer.
 - Declaration that technical support is available.
 - Manufacturer request shall be reviewed by MWG for acceptance or rejection.
 - MWG recommendation shall be raised for DCRP members for final recommendation, and the same shall be raised to MoCIIP (DGSM) for final acceptance to add new agent for the same approved product, within Three years of approval certificate validity.
 - Fees to be paid according to Fees clause..

In case Approved manufacturer is shifting the factory

▪ **Change/ Shifting Approved Factory location**

In case Approved manufacturer is shifting the factory to another location within same country or to another country, then the product shall undergo all evaluation process including requesting new type test certificate according to Stage 2.

Product Suspension

According to DCRP recommendation supported with justifications, MoCIIP (DGSM) suspension of an approved products will be issued with prior notification in the following cases:

- Supplier/agent/manufacturer is manipulated on approved type tested design,
- Supplier/agent/manufacturer is not supplying approved model,
- The approved product has quality issues, or cause failures in the network.

Moreover, it shall be noted that removal of suspension for any product shall undergoes of complete process of evaluation.

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Fees

All fees shall be paid at DCRP bank account & it is non-refundable at any case including product rejection.

Description	Fees (OMR)
Application File	10
Pre-qualification Fees	2000
Headend System HES Integration	*(2)
Description	Fees (OMR)
Adding/ changing major parts in approved Major parts sub supplier list	500
Adding new product Type/Rating/Model/ series).	500
Change Agent name / or Manufacturer name	500
Adding new Agent for the same approved product.	500

*Notes:

1. VAT 5% of all above fees is applied & shall be considered.
2. The integration fees are varying which depending on the Existing HES owner policy and Energy Smart Meter Types. It is recommended to check the exact fees before initiating the prequalification processes from HES owner.
3. Changing agency or changing manufacturer name within 3 years of approval certificate validity, the certificate & it's all documents shall be updated as required with new name of manufacturer/ agent without affecting existing certificate validity date.

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Useful Links



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Tel: +968 2477 4818

Web: <http://dgs.m.gov.sa/store/>

هيئة تنظيم الخدمات العامة
Authority for Public Services Regulation



[Oman Electrical Standards \(OES\) | Authority for Public Services Regulation \(apsr.om\)](#)

Annexure E: Products Specific Requirement Table

Item	Subject	Requirements
1	Checklist	Required
2	Type Test certificate & report	Required
-	Type Test witnessing	If requested
-	Special tests	Required
-	Special tests witnessing	If requested
-	Routine Tests Not older than (6) months	Required
-	Routine Tests witnessing	Required
3	General Assembly Drawings	Required
-	Typical connection arrangements	Required
-	Parts Drawings	Required
4	Products Main Parts List	Required
5	Experience in GCC	Required
-	Experience in Middle East	Required
-	Experience in Other Places	Required
6	Certificates form Other Network Operators	Required
7	Factory Site Visit	Required
8	Other Site Visits	If requested
9	Sample Submission	Required
10	Technical support	Required