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SECMP0007 'Firmware updates to IHDs and PPMIDs '

Refinement Consultation responses

About this document

This document contains the full non-confidential collated responses received to the SECMP0007 Refinement Consultation.

Question 1: Do you agree with the solution put forward?

Question 1			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	Yes	We support the functionality provided by the solution put forward, subject to suppliers providing reassurance that excluding an IHD solution will not significantly affect their service provision for a significant number of consumers.
Shell Energy Retail	Large Supplier	No	The Modification report concludes that CADs were excluded from scope. However, it is not clear that consideration of the solution scope for OTA firmware updates included combined PPMID/CAD units, where the upgrade path to both PPMID and CAD firmware via the internet is a working and viable solution. Although such an upgrade path is not 'local', the rationale for banning local firmware updates as a result of this modification could be assessed as including upgrading firmware via the CAD capability. We would welcome clarity on this point and trust that the intention of banning 'local' upgrades does not remove upgrading via CAD in a combined PPMID/CAD unit.. The timescales to successfully implement the proposed solution once this SEC Mod is approved mean that suppliers could be actively using the CAD route as the firmware upgrade path. We also note that excluding the CAD upgrade path increases the risk of unsuccessful firmware upgrades using the proposed route (via the Comms Hub), with all traffic being sent over a congested and (at the moment, and possibly enduring?) unreliable delivery method, to the shared limited buffer space on the Comms Hub. We expect that work to make this solution 'fit for purpose' will be many years in the making, across Comms Hub variants and CSP regions. Exclusively placing more volume on this single approach, by banning a viable and working OTA firmware management process using CADs is misplaced.

Question 1			
Respondent	**Category**	**Response**	**Rationale**
			One of the assumed benefits of the proposed solution is that it provides for reliable and up to date information of the firmware versions held in the SMI. Our experience is that this aspect of the current firmware solution, which the proposed solution relies on, is not reliable, and due to process issues, result in device firmware that has been upgraded via OTA but has not been updated in SMI, which still holds the 'old' firmware version. It has been necessary to run SR11.2 (Read Firmware Version) to validate the device firmware version and update SMI accordingly. We believe that it could be acceptable to require Suppliers to ensure that SMI has been updated following a firmware upgrade (if not already a SEC requirement) by always running SR11.2 as a matter of process, with this obligation applying regardless of upgrade mechanism (for example, via the Comms Hub, as proposed, or via the CAD, as currently). We would ask that the proposal is considered by Alt HAN Co and their vendors to assess the impact on supporting this additional firmware upgrade traffic across its developing solutions and HAN-extending devices, for a more complete impact assessment. We think that more weight should be given to the TABASC view that longer-term use of the proposed solution would be undermined by new technology, and recognised in a cost benefit assessment to inform whether this modification can still be justified.
SMS Plc	Other SEC Party	Yes	SMS agrees with the implementation of this solution
DCC	Other respondent	-	We do not have an opinion on this, as we are directed by the Working Group
Chameleon Technology	Other SEC Party	Yes	The proposed solution will allow future PPMID/HCALCS devices to be kept up to date with security/functionality improvement after deployment. It will also allow a significant percentage of devices that have already been installed to gain the same benefits.
Npower	Large Supplier	Yes	We are supportive of this modification and we believe it's the right thing to do. We

Question 1			
Respondent	**Category**	**Response**	**Rationale**
			are concerned at the level of DCC costs involved with the investment of this modification
TMA Data Management Ltd	Other SEC Party	Yes	-
E.ON	Large Supplier	Yes – providing the below is met	Agree that the Zigbee OTA route is needed for SMETS2 PPMIDs, and HCALCs to be via GBCS Critical Commands. SMETS2 IHDs can be discarded if the cost savings are worthwhile in doing so. The ability to OTA SMETS1 IHDs post Enrolment and Adoption must be unaffected, and suppliers must still be able to roll out a firmware update OTA once enrolled and adopted and SECMP0007 is implemented. DCC must provide clarity on this.
Scottish Power	Large Supplier	Yes	The solution will allow the PPMID functionality to be updated without need for a site visit and replacement of older units. In particular, if a gap in functionality is found for prepayment customers such upgrades may prove necessary. The solution in terms of CH notifying the PPMID of the availability of the image and activation on download means that all existing units in the field will be upgradable. The units we have installed have this capability built in, though it has not been tested as yet. De-scoping the IHD from the OTA process means a simplification in the DSP changes, with a potential cost saving and reduced delivery risk. The IHD is not currently in CPL and has reduced validation in the DCC inventory, so not requiring this "fix" reduces complexity.
SSE	Large Supplier	Yes	We require the ability to upgrade firmware OTA on the devices referenced (PPMIDs/HCALCS), to minimise the potential of stranded assets or the need to visit the site locally for resolution activity, with resulting impacts on the consumer. We have raised points for clarification in response to Question 10.

Question 1			
Respondent	**Category**	**Response**	**Rationale**
			In our response to Question 6, we set out our view that there needs to be further investigation undertaken by the working group to understand the proportion of installed devices that may or may not be capable of firmware upgrades.
EDF	Large Supplier	Yes	We agree that the proposed solution seems appropriate. It is our understanding that some existing installed devices, and specifically some PPMIDs, have the capability within that device to accept and process a firmware upgrade; however the ability to send such a firmware update is not present in the DCC systems. Device manufacturers need to be engaged in the detail of this solution in order to ensure that the proposed solution will be compatible with their existing devices, and would therefore enable devices installed before this SEC Modification is made to be upgraded once the Modification has come into effect. This is necessary to maximise the benefits to be gained from making this change, and minimise the number of devices that would remain exposed to the risk of stranding. If this is not done then every PPMID or HCALC installed before this change comes into effect is exposed to a significant risk of being stranded should the version of SMETS they are compliant with have a Maintenance Validity Period (MVP) end date set. We note that BEIS have recently consulted on designating an end date for SMETS2v2 that would impact PPMIDs and HCALCs compliant with that version of the Technical Specifications. BEIS have decided not to implement the proposal to implement that MVP at this time specifically as a result of the concerns about the impact on the compliance of PPMIDs and HCALCs.
Smartest Energy Ltd	Small Supplier	Yes	The proposed solution will allow all affected parties to allow their customers better manage their energy usage by using the most-up-to-date versions of their devices. This could also see the development between Supplier and Meter Manufacturer's when discussing possible triage solutions (should issues present themselves).

Question 1			
Respondent	**Category**	**Response**	**Rationale**
Green Energy Options Limited	Other SEC Party	Yes	1. geo strongly supports the introduction of a DCC firmware upgrade process for HAN connected devices. This is for three principle reasons (there are others too): a. IHD/PPMIDs have always been valuable consumer engagement devices and the ability to upgrade these to apply enhanced feature sets over time is a sensible way of getting additional value out of the asset being provided as part of the mandate. b. There are several reasons why IHD/PPMIDs could become stranded assets if enhancements to meter/CH firmware are made of which the IHD/PPMID is unaware, both at a ZigBee cluster level and also with respect to (currently unforeseen) security patches. c. The alternative to OTA upgrades to HAN devices is either to send a field operative to each site (clearly very expensive) or a return to base for reprogramming (which has a low level of success through logistical complexity and consumer inertia).

Question 2: Will there be any impact on your organisation to implement SECMP0007?

Question 2			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	No	Implementation of the modification will not impact Citizens Advice. However, delay to implementation and a continued lack of capability to carry out OTA firmware updates to mandated HAN Devices creates risk that Devices which are not currently OTA upgradable may lose their functionality. The impact on consumer engagement with their smart meters, capability to top-up a PPMID and manage load will cause detriment to consumers. Depending on the scale of the impact, Citizens Advice Consumer Service is likely to have increased correspondence with consumers about these issues.
Shell Energy Retail	Large Supplier	Yes	Development of new adaptor process orchestration, testing and operational monitoring and exception management procedures.
SMS Plc	Other SEC Party	Yes	Commercial contracts with IHD/PPMID manufactures will need amending. Mainly around delivery of releases, level of testing and assurance.
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	No	Subject to some details laid out in the response to Question 8, the proposed solution is already being used within our devices – the proposal extends support for this to the rest of the system.
Npower	Large Supplier	Yes	-
TMA Data Management Ltd	Other SEC Party	Yes	There might be some system changes required, expected to be small.
E.ON	Large Supplier	Yes	The implementation of this modification will result in changes to:

Question 2			
Respondent	**Category**	**Response**	**Rationale**
			• IT infrastructure to deliver the additional SRs required; • Operational Processes that can be modified to benefit from this capability; It must be highlighted that while the ban on local upgrades to PPMIDs will come into effect once SECMP0007 is implemented, the capability to do so will still exist within the assets that are already deployed, unless a new firmware image to disable local OTA is developed by manufacturers and deployed. Whilst this capability may still be there, E.ON will not be intending to use it once SECMP0007 is implemented.
Scottish Power	Large Supplier	Yes	As PPMIDs cannot currently be upgraded by OTA, the functionality is not part of our backend IT solution. We will therefore need to design, build and test the change in our system. If the cost of implementing the Modification is as high the PA indicates it might be, it will require careful budgetary planning. Moreover, we would highlight that we are still to be advised of other potentially high cost 2020 SEC Modifications, which may also impact our financial planning.
SSE	Large Supplier	Yes	Implementation of this modification will have an impact upon systems and processes within our organisation. There will be a need for significant testing for every combination of newly upgradeable HAN Devices with all Comms Hubs.
EDF	Large Supplier	Yes	We will be impacted should SECMP0007 be approved for implementation. It is, however, very difficult to isolate and identify the impacts of making any one change as these changes will be made as part of a wider change to the Technical Specifications. We will incur a significant cost for moving to any new version of DUIS, or the device Technical Specifications – the specific impacts associated with individual changes within those new versions is incredibly difficulty to identify.

Question 2			
Respondent	**Category**	**Response**	**Rationale**
			Any new version of the Technical Specifications will have the following impacts, amongst others: • Engaging with device manufacturers to procure devices compliant with the revised versions of the Technical Specifications • Testing of existing devices that are deemed compatible with the revised versions of the Technical Specifications • Testing of the new devices to ensure they are compliant • Operational transition from installation of the previous version of devices to the new version • Design build and test changes to our internal systems to comply with the new version of DUIS • Regression testing of the new version of DUIS against current. • E2E testing of the new version of the DUIS in the DCC UIT environment • Transition to the new version of DUIS • Post-implementation support for the new version of DUIS
Smartest Energy Ltd	Small Supplier	Yes	• Refinement of current internal Firmware Upgrade process • DCC forecasts to be amended to reflect Firmware Upgrade SRs more regularly and not according to when is the most cost affective time to do so
Green Energy Options Limited	Other SEC Party	Yes	The degree of implementation effort required will depend on the technical solution adopted, specifically how firmware update notifications are notified and how larger image sizes are handled. This should be subject to discussion at a working group meeting.

Question 3: Will there be any impact on your organisation with the exclusion of In-Home Displays from the proposed solution?

Question 3			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	Yes	Consumers that will not receive OTA firmware updates to IHD's need to be provided with an alternative solution. Depending the number of consumers affected and the form of alternatives available, consumer trust in the rollout could be affected.
Shell Energy Retail	Large Supplier	No	We fit PPMIDs
SMS Plc	Other SEC Party	Yes	If a batch of IHD's with old firmware is in stock, Suppliers will choose the latest. If there is no ability to upgrade firmware once installed – we could be in a position of having significant obsolete stock and a potential gap in the Supply Chain and subsequent roll out. This logic applies for industry change cut over too
DCC	Other respondent	Yes	We believe that DCC are required to support
Chameleon Technology	Other SEC Party	Yes	There will be no impact on future devices. However, IHDs that have already been installed that are technically capable of supporting this solution (from a device point of view) will be unable to be updated, leaving them unable to be supported through security/capability upgrades.
Npower	Large Supplier	No	-
TMA Data Management Ltd	Other SEC Party	No	The impact is likely to be the same with the IHD excluded or included.
E.ON	Large Supplier	No – providing SMETS1 IHDs remain	All E.ON SMETS2 customers will be benefit from this capability.

Question 3			
Respondent	**Category**	**Response**	**Rationale**
		unaffected from this proposal	DCC need to provide explicit confirmation that this proposal will not affect SMETS1 IHDs that have been enrolled and adopted into their systems, and the ability to OTA these SMETS1 IHDs remains.
Scottish Power	Large Supplier	Yes	Although most such Devices that we install are PPMID capable, we cannot guarantee that the same can be said for the Devices we gain. Nevertheless, we support the designed solution.
SSE	Large Supplier	Yes	We have assessed this to be a limited impact as we have low volumes in our estate of IHD-only devices, these will need to be managed separately with a different method. We are unable to independently quantify the potential impacts and projected volumes where we may gain a customer who uses an IHD. However, we believe this scenario could be effectively managed by offering a consumer a PPMID.
EDF	Large Supplier	No	We would not be impacted by the exclusion of In-Home Displays from the proposed solution. We, in common with a number of other Suppliers, are rolling out PPMIDs rather than IHDs. While these devices meet the licence obligations relating to IHDs, they are designated in the DCC systems as PPMIDs. In general we would regard the stranding risk associated with IHDs as being much lower. As Type 2 devices the security risk associated with IHDs is very low, and they are less likely to be impacted by any mandatory upgrade to resolve a security vulnerability. Supplier licence obligations also only require the IHD to be compliant with the relevant version of the Technical Specifications for 12 months after it has been provided. PPMIDs and HCALCS are Type 1 devices, and Supplier are obliged to ensure they remain compliant with a valid version of the Technical Specifications for the whole of the time they are installed. They also have 'active' functionality that has the potential to change over time, unlike IHDs which are 'passive' devices'. The likelihood of such devices needing to be

Question 3			
Respondent	**Category**	**Response**	**Rationale**
			upgraded is far higher, and the risk of stranding them if this is not possible is exponentially greater than for IHDs.
Smartest Energy Ltd	Small Supplier	Yes	We are a supplier that does not off Pre-Payment services as a method of payment. This means that we will only be offering customers IHD's.
Green Energy Options Limited	Other SEC Party	No	-

Question 4: Will your organisation incur any costs in implementing SECMP0007?

Question 4			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	No	As discussed, there are risks associated with delay to a solution for Citizens Advice and for consumers.
Shell Energy Retail	Large Supplier	Yes	SWAG Capex £300K; Opex £75K
SMS Plc	Other SEC Party	Yes	Resource – managing the due diligence of a higher frequency of change to IHD firmware. Logic being that if an IHD manufacture has the ability o change remotely and fix a vulnerability/issue of increase or improve functionality. They will do so, and more often.
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	Yes	As we have already implemented the proposed solution, our extra costs will be minimal, covering only the additional end-to-end testing that comes from having the rest of the system support the capability. While we would not achieve any direct cost savings, we would experience a dramatic reduction in the risk of our product irrecoverably failing in the field (either through fault of our own or due to changes to the rest of the deployed equipment), which would be a material benefit.
Npower	Large Supplier	Yes	We will incur significant costs, if this modification was implemented and we would require further analysis of the costs. We will also incur our own internal costs as well as the DCC costs.
TMA Data Management Ltd	Other SEC Party	Yes	Likely to be low cost.

Question 4			
Respondent	**Category**	**Response**	**Rationale**
E.ON	Large Supplier	Yes	E.ON are likely to incur costs due to changes stated in Question 1, these are hard to quantify until we know exactly what modifications to our infrastructure is required. E.ON will benefit from this because there is the reduced risk of unnecessary cost, because fixes to PPMIDs can be applied remotely without the need for a physical visit to the property for exchange.
Scottish Power	Large Supplier	Yes	Our implementation costs are subject to a detailed impact assessment to be carried out internally if/once this Modification is approved; however, we fully expect to save on costs of site visits and PPMID replacements by its implementation, and would note that, conversely, these would translate to cost impacts if the proposal was not implemented. Nevertheless, at this relatively nascent stage it is not possible to identify the likely extent of costs or savings as these will only become clear once a reasonable canon of empirical knowledge has built up. At this stage it is also very difficult to assess the impact that alternative smart technologies could have: e.g. smartphone apps may be preferred to a static IHD.
SSE	Large Supplier	Yes	As per our response to Question 2, there will be costs associated with System and process impacts, with significant testing for every combination of the newly upgradeable HAN Devices (PPMIDs/HCALCS) with all Comms Hubs. The extent of the costs to be incurred is difficult to ascertain until we receive the confirmed proposed solution. There could be ongoing costs where we offer a customer a PPMID to replace their SMETS2 IHD. This would be dependent on factors, that cannot be independently quantified, such as the IHD volumes deployed and potential churn.
EDF	Large Supplier	Yes	As noted in our response to Question 2 it is very difficult to isolate and identify the impacts of making any one change as it will be made as part of a wider set of changes to the

Question 4			
Respondent	**Category**	**Response**	**Rationale**
			Technical Specifications. We will incur a significant cost for moving to any new version of DUIS, or the device Technical Specifications – the specific costs associated with individual changes within those new versions is incredibly difficulty to identify.
Smartest Energy Ltd	Small Supplier	-	-
Green Energy Options Limited	Other SEC Party	Yes	-

Question 5: Do you believe that SECMP0007 would better facilitate the General SEC Objectives?

Question 5			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	Yes	This modification is critical to efficient provision, installation, operation and interoperability of smart metering systems at energy consumers' premises (A). It is a method of facilitating energy consumers' management of their use of electricity and gas through the provision of appropriate information via smart metering systems (C). It will also facilitate innovation in the design and operation of energy networks to contribute to the delivery of a secure and sustainable supply of energy (E).
Shell Energy Retail	Large Supplier	No	Objective (a) cost effectiveness is finely balanced, and in our opinion is negative, given the costs; timescales to implement the fit for purpose solution; the volume of PPMIDs installed (with CAD capability) that will already be installed and using an alternative firmware upgrade path; and the unquantified HCALCS volumes, timing of availability of devices and the extent of actual usage of intended use cases.
SMS Plc	Other SEC Party	Yes	-
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	Yes	This solution allows key parts of smart metering infrastructure to be kept up to date without the need for a costly replacement. This will enhance the security of the system, and provide better assistance to the Energy Consumer in the management of their energy.
Npower	Large Supplier	Yes	We believe that should this modification be implemented it would better facilitate SEC objectives a, c, d and f as outlined within the modification report

Question 5			
Respondent	**Category**	**Response**	**Rationale**
TMA Data Management Ltd	Other SEC Party	Yes	-
E.ON	Large Supplier	Yes	We believe SECMP0007 facilitates the General SEC Objectives in line with the proposer; Objective A Enables PPMIDs to be operational and interoperable with the ever-developing meter firmware for the long term within Smart Metering Systems. Objective C Maintains the ability for the device to display information that Consumers can use to manage their use of electricity and gas. Objective D Industry aligned process for updating firmware on PPMIDs, in line with the processes for ESMEs and GSMEs. Objective F It can patch any security vulnerabilities that arise in PPMIDs in a quicker, more manageable fashion to current processes where this OTA is not available. This is also fundamental for the delivery of SECMP0056 to already deployed assets.
Scottish Power	Large Supplier	Yes	We agree that Objectives A & C will be better facilitated by implementation of SECMP007.
SSE	Large Supplier	Yes	Objective (a): We agree that SECMP0007 will better facilitate this SEC Objective as the proposed solution will provide an efficient and effective process for updating firmware on the PPMID and HCALCS. This will support the ongoing operation and interoperability of these devices and would avoid unnecessary cost expenditure relating to their replacement.

Question 5			
Respondent	**Category**	**Response**	**Rationale**
			Objective (c): We agree that SECMP0007 will better facilitate this SEC Objective as the modification would allow consumers to better manage their energy usage by having sustainable most-up-to-date Devices that provides them with energy related information. Objective (d): We believe that this proposal is neutral in terms of facilitating effective competition between persons engaged in, or in Commercial Activities connected with, the Supply of Energy. Objective (f): We believe that this proposal is neutral in terms of better facilitating the protection of Data and the security of Data and Systems in the operation of this Code.
EDF	Large Supplier	Yes	We strongly support this Modification and believe that it better facilitates General SEC Objectives (a), (c), (d) and (f) for the reasons detailed in the Modification Report.
Smartest Energy Ltd	Small Supplier	Yes	This modification better facilitates: Objective (a) – suppliers will/can avoid unnecessary costs replacing devices Objective (c) – having the most up-to-date software will help end users continue to better manage their energy
Green Energy Options Limited	Other SEC Party	Yes	The modification meets objectives a) c) d) and f) of the SEC objectives as noted in the consultation document. We would also wish to emphasise: • that there are as yet unresolved elements of IHD/PPMID functionality that will provide a better customer experience if a firmware upgrade is provided, for example, the treatment of import/export and local generation. This can be confusing to the user at present yet could be resolved in the future with an OTA upgrade. • Device manufacturers have been encouraged by government to use the smart meter infrastructure for additional services. Many will need to be supported by

Question 5			
Respondent	**Category**	**Response**	**Rationale**
			upgrades, particularly when DSR becomes a viable markets in the near future. The smart metering system will be branded as obsolete if it cannot support upgrades to more advanced HAN devices in the future.

Question 6: Noting the costs and benefits of this modification, do you believe SECMP0007 should be approved?

Question 6			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	Subject to value for money being established for the modification.	We are concerned by the costs being quoted by the DCC do not offer value for money following the 'SEC Mod and BEIS Mandated Change Review'. However, the modification represents important functionality that represents significant value to consumers and needs to be approved promptly.
Shell Energy Retail	Large Supplier	No	As previous rationale
SMS Plc	Other SEC Party	Yes	Benefits of the change will in turn out-weigh costs associated.
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	Yes	SECMP0007 should be approved as the costs to the industry as a whole to maintain the system through device replacement are prohibitively high compared to the costs to implement OTA capability.
Npower	Large Supplier	Not at this time	
TMA Data Management Ltd	Other SEC Party	No	The DCC costs estimated at 7.3 to 8.2 M make it difficult to see that SECMP0007 will actually deliver benefits to the Industry.

Question 6			
Respondent	**Category**	**Response**	**Rationale**
E.ON	Large Supplier	Yes – providing clarity on the impacts of SMETS1 meet our concerns below	We believe this modification should be progressed providing that SMETS1 IHDs that will be enrolled and adopted into the DCC systems, and the ability to OTA these SMETS1 IHDs is still available.
Scottish Power	Large Supplier	Yes	Although the costs uncovered by the Preliminary Assessment are very high, we still believe these to be outweighed by the significant benefits of SECMP007. Nevertheless, we cannot yet quantify these benefits with any real accuracy. Therefore, noting the costs of SECMP007 in the context of a range of current proposals, we would caution that a degree of pragmatism is going to be needed in prioritising which, if any, of the current crop of modifications to implement.
SSE	Large Supplier	Yes	We are supportive of the intent of this Modification and the ability for Suppliers to upgrade firmware on HAN Devices. We believe there does need to be a solution to upgrade PPMIDs and HCALCS. However, we believe the working group should undertake further investigation to understand the existing capability and planned development of PPMIDs and the future capability of HCALCS. For those devices that currently do not have upgrade capability, we would need to understand the timescales where Device Manufacturers would be developing their products to meet the required capability to OTA upgrade. Given the high volume that would be deployed before these become commercially available, there needs to be further analysis to understand the proportion of devices across Industry that would or would not be capable of being upgraded.

Question 6			
Respondent	**Category**	**Response**	**Rationale**
			Given the indicative costs of this modification, we would support and welcome a rigorous approach to Cost Benefit Analysis. We recommend that the working group engages with Device Manufacturers to gain an understanding of the existing/future capability and determine volumes that could be deployed over the timeline leading up to the implementation of this modification.
EDF	Large Supplier	Yes	We strongly agree that this Modification should be approved, and implemented at the earliest possible opportunity. The volumes of devices, and especially PPMIDs, that are being installed means that the stranding risk associated with such devices is very significant, and will only increase as the rollout accelerates. We have already seen proposals from BEIS to end the MVP for the current version of SMETS which would make the PPMIDs that have been provided to date non-compliant, and in need of replacement. Assuming an average cost of £15 to £25 for a PPMID, the cost of replacing a million of these devices (which we believe is a conservative estimate) is going to be £15million to £25million, easily outweighing the costs of making this change. That in itself is a conservative estimate, and does not take into account additional costs associated with returning and replacing devices, or site visits to provide and install the replacement devices. While we believe that there is a strong business case for making this change, we would still like to see the costs that have been estimated by the DCC reduce significantly. We struggle to see how the DCC costs for implementing this change could be in the region of £10million, this needs to be reduced as far as possible and unnecessary cost eliminated. Should this change not be progressed, it is likely that alternative 'unofficial' routes might be sought to enable devices to be upgraded and avoid the stranding risk; for example through an internet connection to the device. Such an outcome would create numerous problems in regard to the ability to manage firmware upgrades, and understand what version of

Question 6			
Respondent	**Category**	**Response**	**Rationale**
			firmware a device is compliant with. Such solutions would also not be interoperable, and only accessible to the Supplier that originally provided the device.
Smartest Energy Ltd	Small Supplier	Yes	Even though the DCC costs are consistently high, it should still be approved as this modification will have the same process for all parties that will be affected across the industry. The change will also prevent SmartApp providers charging suppliers to upload a new Firmware Image when the firmware image is provided to suppliers free of charge.
Green Energy Options Limited	Other SEC Party	Yes	-

Question 7: How long from the point of approval would your organisation need to implement SECMP0007?

Question 7			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	-	-
Shell Energy Retail	Large Supplier	12-15 months	Design, development, and testing in line with other smart metering product roadmap priorities, and third party adaptor release cycle, subject to DCC alignment and provision of solution in UIT-A environment (our timescales assume early availability) recognising DCC's cited 6-12 month lead time.
SMS Plc	Other SEC Party	In line with change, given notice of <2 months	-
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	0	Our products already support the proposed solution.
Npower	Large Supplier	6 months minimum	-
TMA Data Management Ltd	Other SEC Party	4 to 6 months	-
E.ON	Large Supplier	<6 months from SEC Mod approval. But	Minor changes would be required for our IT infrastructure to implement this proposal once it is delivered by the DCC.

Question 7			
Respondent	**Category**	**Response**	**Rationale**
		to be phased with DCC delivery for testing.	Procedural changes can be developed once approved and delivered in line with DCC delivery. Capability will need to be tested internally before we deploy this for our live customers.
Scottish Power	Large Supplier	1 year	There are a significant number of changes on going at the present time, such as the R2 transition and SMETS1 Enrolment and Adoption. Moreover, the 2020 Mod drops promise further changes that may also impact our systems; though as they are still going through the refinement process we do not yet have a full view of these. Given such levels of change, each competing for the same valuable resources, we do not anticipate changes being fully tested and implemented within a short lead time.
SSE	Large Supplier	At least 12 months lead time	Difficult to ascertain until we get the exact proposal; we would need at least 12 months to undertake the required changes to System and process impacts and the testing for every combination of the newly upgradeable HAN Devices with all Comms Hubs.
EDF	Large Supplier	12 months (although this could potentially be 6)	The amount of lead time required largely depends on the amount of change required to devices to support the new functionality. As noted in our response to Question 1 we understand that many existing devices are already capable of supporting firmware upgrades. If this is the case and existing devices are capable of being made compliant with the revised Technical Specifications then this would reduce the lead time required for our implementation.
Smartest Energy Ltd	Small Supplier	N/A	This will be dependant on the new number of SRs introduced and what impact these may have on forecasts.
Green Energy Options Limited	Other SEC Party	3 months	-

Question 8: Do you agree with the proposed implementation approach?

Question 8			
Respondent	**Category**	**Response**	**Rationale**
Citizens Advice	Other respondent	-	As outlined in question 6.
Shell Energy Retail	Large Supplier	Yes	If business case can be justified and agreed before 5 Nov 2019
SMS Plc	Other SEC Party	Yes	Date for implementation as part of the release is agreed as long as no other elements of the release have the potential to cause negative impact. Testing of this would be beneficial.
DCC	Other respondent	-	-
Chameleon Technology	Other SEC Party	Yes (with comments)	The solution (from the point of view of our PPMID devices) uses the widely understood and tested ZigBee standard, which is expected to support existing and future devices. However, there is some lack of clarity over how the success of the upgrade is communicated back to the comms hub. The "Proposed Solution" states that after a timeout the comms hub reads back the version. The DCC response sometimes describes a mechanism whereby the PPMID publishes an event using a (presently unsupported) extra ZigBee mechanism and sometimes refers to the comms hub reading back the version. We would support either option, with a preference for the comms hub polling the device rather than the device implementing a new ZigBee cluster, on the understanding that the extra ZigBee mechanism could only be used by a device that had successfully received a firmware upgrade. In the case of a pre-existing device, it would be unable to be able to support this mechanism to report failures to update. In the case where the DCC-described mechanism of publishing events is used, the proposal does not detail the payload of the event – the earlier this can be specified, the sooner affected devices can support the change (even in advance of the capability being supported within the system as a whole).

Question 8			
Respondent	**Category**	**Response**	**Rationale**
			The PIA contains the text “The Great Britain Companion Specification (GBCS) will mandate the hardware version to avoid wasted downloads over the Home Area Network (HAN).” This should remain as an optional feature, to ensure already-installed devices see as much benefit from this as possible, if they have not implemented an optional feature in expectation of this modification.
Npower	Large Supplier	Yes	-
TMA Data Management Ltd	Other SEC Party	Yes	-
E.ON	Large Supplier	No	This needs to be delivered before November 2020. PAYG is likely to see increased volumes be deployed across the industry from Q4 2019, this will likely bring with it challenges and potential firmware/security issues with PPMID devices that we can’t yet see in testing. SECMP0007 needs to be delivered sooner to help industry deliver PAYG to its customers as smoothly as possible, and this capability is needed ASAP to ensure that customer faith in smart can be maintained because bugs with PPMID firmware can be deployed OTA without the need to inconvenience the customer with a site visit, just like meter firmware.
Scottish Power	Large Supplier	Yes	SECMP007 has been under discussion and refinement for a number of years now and we have reached a point where there is a compromise between cost, complexity and the need to deliver the solution quickly. We therefore believe it should be taken forward to full Impact Assessment as soon as possible.
SSE	Large Supplier	Yes	We agree with the proposed implementation approach. As per our response to Question 6, there needs to be further analysis to understand the implications to the PPMIDs volumes

Question 8			
Respondent	**Category**	**Response**	**Rationale**
			deployed, and their capability, in conjunction with the timeline to meet any implementation date.
EDF	Large Supplier	Yes	We agree with the proposed implementation approach. We also agree with the Proposer, Working Group members and the DCC that the implementation date for this Modification must be as soon as possible
Smartest Energy Ltd	Small Supplier	Yes	As this modification may potentially not affect us, the recommended implementation approach is fine.
Green Energy Options Limited	Other SEC Party	No	• We cannot support the prohibition of local upgrade and we very strongly wish to represent that this is NOT implemented. The only reason for preventing local upgrade would appear to be the reporting of firmware version which is triggered by the CH after the download of a new firmware image. We believe there are other ways to notify the Supplier of firmware version that can be resolved in a working group meeting to get round this. Our principle objections to this proposal are: a. The industry is being encouraged to make more of the HAN provided by the smart metering programme to add more functionality to households. This applies to combined PPMID/CAD devices as well as other feature sets over and above the mandate for an IHD. It is quite probable that these feature sets could rely on real time data and/or real time commands and that the devices require timed (and possibly rapid) upgrade. This may not be available from the Supplier controlling the SMS and may be required faster than the DCC SLA allows for. b. Some images for advanced functionality beyond mandated PPMID may be larger than the size the CH can handle c. There will be a cost associated with DCC services which need not be incurred with a local upgrade path.

Question 8			
Respondent	**Category**	**Response**	**Rationale**
			d. It is very likely that devices which support non mandated or CAD services will churn from Supplier to Supplier. In such circumstances the new Supplier may not be able to support an upgrade or may have no incentive to do so with any sense of urgency leading to customer frustration and likely stranded assets. This would bring unacceptable negative publicity to the smart metering programme and potentially loss of functionality that a consumer may be paying for if an upgrade becomes essential. • It is our view that local upgrade MUST be permissible in addition to OTA upgrade via the comms hub.

Question 9: How will the exclusion of In-Home-Displays impact consumers?

Question 9		
Respondent	**Category**	**Response and rationale**
Citizens Advice	Other respondent	We are not in position to take a stance on this question but refer to our answer to Question 2. We are likely to only support the exclusion of IHDs if the proportion of consumers affected will be very minimal. If this approach is approved we would encourage an industry agreed approach to address those consumers who are affected. This will help consumers to understand the process.
Shell Energy Retail	Large Supplier	Suspect limited as majority of Customers will expect, and industry innovations may drive, the use of new engagement and energy insight technologies, reducing the use and reliance on IHDs.
SMS Plc	Other SEC Party	-
DCC	Other respondent	-
Chameleon Technology	Other SEC Party	A small set of consumers with IHDs that are not also PPMIDs will be unable to receive security updates or functionality fixes which could potentially render their display unusable.
Npower	Large Supplier	No impact for our consumers
TMA Data Management Ltd	Other SEC Party	N/A
E.ON	Large Supplier	There will be no impact to E.ON's SMETS2 customers because our assets are PPMIDs. The savings of excluding SMETS2 IHDs need to be made known, so industry can decide if the values are worthwhile for exclusion. DCC needs to provide explicit clarity that SMETS1 IHDs that have been Enrolled and Adopted into the DCC should not be affected by the implementation of SECMP0007, and that suppliers will be able to OTA SMETS1 IHDs once enrolment and adoption has occurred, and SECMP0007 has been implemented.

Question 9		
Respondent	**Category**	**Response and rationale**
Scottish Power	Large Supplier	We note that the relevant supplier is only obliged to replace a faulty IHD if it is within its 12-month guarantee, leaving some potential for standalone IHDs to lose their functionality if the firmware cannot be remotely upgraded. We therefore believe a focus on PPMID OTA to be an acceptable compromise between cost and delivery timescale.
SSE	Large Supplier	We note the impacts set out in the modification report and agree these could result in impact to consumers. However, we believe that the impact to consumers can be mitigated by the offering of PPMIDs. We would be interested to understand the overall volumetric, where SMETS2 IHDs have been or will continue to be offered by suppliers, as this would impact the extent of the cost of this mitigation across Industry.
EDF	Large Supplier	As detailed in our response to Question 3 we do not believe that the exclusion of In-Home-Displays from the solution will have an impact on consumers.
Smartest Energy Ltd	Small Supplier	-
Green Energy Options Limited	Other SEC Party	In the SMETS2 environment, the exclusion of IHDs should not impact customers for any geo device. If the proposal for this modification is that OTA to HAN devices is unavailable on adopted SMETS1 devices, then this means any SMETS1 HAN device effectively becomes stranded. In our view this is unlikely to cause any consumer issue.

Question 10: Please provide any further comments you may have

Question 10		
Respondent	**Category**	**Comments**
Citizens Advice	Other respondent	-
Shell Energy Retail	Large Supplier	None.
SMS Plc	Other SEC Party	1. Will the implementation of this change be completed in a phased approach and testing completed after each stage to ensure there are no issues or will this be a big bang approach. 2. Will workaround be put in place in event change does not go to plan and how will it be rolled back? 3. After implementation - The document provides many details on how on firmware will be able to be uploaded to the devices, how will these patches etc be rolled back in the event of any issues – can this please be confirmed and has this been considered
DCC	Other respondent	-
Chameleon Technology	Other SEC Party	There are small but significant implementation details that need to be addressed (see comments to Question 8). However, these should not slow the progress of this modification. It is significant that any solution that is selected is supported by as many existing devices as possible, and decisions should include consideration of this.
Npower	Large Supplier	N/A
TMA Data Management Ltd	Other SEC Party	-
E.ON	Large Supplier	Every potential cost saving measure should be explored by the DCC to test and deliver the agreed approach, in line with other SECMPs that are currently being reviewed for delivery.

Question 10		
Respondent	**Category**	**Comments**
		A detailed breakdown of the costs for this SECMP should be made available from the DCC as these costs are excessive from initial assessments and beliefs.
Scottish Power	Large Supplier	We believe that the industry should be provided with a detailed justification of the high PA costs, as well as a route to challenge them at the Impact Assessment stage. There are questions of whether the Full Cost approach may be inflating the actual delivery cost, as overall the costs to the programme may be reduced materially if a number of such Modifications were to be bundled into a single drop.
SSE	Large Supplier	We note in the Risks/Assumptions (RD05) that DCC lists that there is concern CSP North may not be able to increase the amount of available radio channels for firmware download. We have separately been made aware, via the SMD+WAN Forum, that there are significant issues with existing OTAs using CSP North's infrastructure, which may require further investment from CSP North to meet its existing obligations. One of the proposals put forward to remedy this already includes extending the amount of available radio channels for firmware download. We expect this to have been resolved and implemented ahead of any implementation of this modification. Regarding the solution proposed in this consultation, we have a few points where we request clarification. These may impact the implementation of the proposed solution. We have extracted the relevant text (with reference) and this is included in italics with our points for clarification following that text. **Modification Report: Section 2 Background – What is the issue?** *"There is also a risk that Devices which are not currently OTA upgradable may lose their ability to communicate on the HAN if there is a ZigBee stack upgrade that needs to be applied to address, for instance, a security related issue."* As per our response to question 6, can this risk be quantified regarding the volume of PPMIDs that are not capable of being OTA upgraded?

Question 10		
Respondent	**Category**	**Comments**
		a) Those already installed; b) Those that will be installed until this Modification is implemented. What action(s) are being taken to manage and mitigate this risk? **Modification Report: Section 7 Discussions and development - Dual Supplier scenarios** *"DCC's second Preliminary Assessment would allow for either of the Responsible Suppliers, as according to the DSP's registration data, to submit the relevant Service Requests. The DCC will be required to notify all Responsible Suppliers at different stages of the Service Request processing."* We note from the Modification Report that dual Supplier requirements developed under "SECMP0024 Enduring Approach to Communication Hub Firmware Management" will apply to this modification. We have some queries on the proposed solution for this modification regarding definition of Responsible Suppliers and what they can do – noting variance between requirements for PPMID and HCALCS. How and where are dependencies between different SEC modifications being managed, to ensure that development and implementation is aligned?
EDF	Large Supplier	As noted above we strongly support this Modification and believe that the benefits outweigh the costs, although the costs do need to be reduced further. As we have noted the nature of changes to the Technical Specifications means that it is very difficult to accurately capture the impacts and costs associated with any individual change. This then makes any accurate cost/benefit analysis difficult. While we believe that SEC Parties are likely to take the same view as us and support this Modification, we need to ensure that we are able to present information to Ofgem, who will make the final decision, that strongly supports the progression of this Modification. In the absence of an accurate view of the costs, it will be challenging to put together a Modification Report that makes the benefits of making this change (and the risks associated with not making it) clear to Ofgem to support their decision

Question 10		
Respondent	**Category**	**Comments**
		making. We cannot afford for this change to be delayed, or worse rejected, because the benefits have not been made clear to Ofgem.
Smartest Energy Ltd	Small Supplier	Although we agree with Modification, we strongly believe **ALL** variations of IHD's should be included
Green Energy Options Limited	Other SEC Party	There are several issues about the upgrade process, the implementation of fragmented images and the reporting of firmware updates that require detailed discussion and agreement before the proposal will work acceptably for all PPMID devices. There is no reason why this cannot be achieved, but it will require full working group attendance to make sure it suits all parties' product sets.