



HM Revenue
& Customs

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Dear Ms Hillier,

I wrote to you on 5 September to offer the Committee a progress report on delivery of the Customs Declaration Service (CDS) ahead of myself, Nick Lodge and Kevin Franklin appearing before members on 25 October.

I am pleased to be able to tell you that we have made good progress since the National Audit Office report in July (fieldwork completed in March) and we are on track to deliver for January 2019. We continue to rate delivery confidence as 'amber'¹, and that rating was assured by the Infrastructure and Projects Authority in May.

The 'Amber' status is consistent with the fact that CDS is a high-risk programme because of its complexity and tight timetable. We assess the most significant risks at this point to be the integration of the technology components procured from external suppliers within HMRC's technical architecture and the performance, for example response times, of the end-to-end system. This reflects where the programme sits within its delivery lifecycle. The Programme has not yet reached the stage where all integration work is complete (an update on integration and testing progress is below) but progress towards an end-to - end integrated service is on track to be ready as planned. The successful delivery of CDS is dependent upon active and close management of these risks.

HMRC has prioritised the CDS programme, and we continue to manage it very closely. I personally review this project monthly with Nick Lodge and the Executive Committee.

I would like to update the Committee on:

- Our overall delivery progress against critical milestones since the NAO review.
- Progress against the risks described in the NAO report.
- Our trade and business readiness activity.

¹ The IPA defines an 'Amber' status as "Successful delivery appears feasible but significant issues already exist requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun".

Overall delivery progress

We plan to build the new Customs Declaration Service incrementally up to August 2018, and to complete transition from the existing CHIEF system to CDS in January 2019. We remain on track against these plans, and are hitting our critical milestones. There are a number of strands to our delivery of the CDS system:

Development of the CDS system

Although we talk about “the CDS system”, it actually consists of a number of different software components that come together to create the environment to facilitate and manage trade in and out of the UK. At the outset of the programme we took the strategic decision to buy rather than build two of the key software components. We therefore procured two software packages (to manage customs declarations and carry out tariff calculations), which together provide a large proportion of the functionality that we require. The remaining functionality comes from re-using and / or expanding existing HMRC IT systems, and a limited amount of new development. Our IT development work therefore consists of a number of activities:

- amending the two commercial software packages, so that they fully meet our requirements
- building new functionality within existing HMRC IT systems, and building new digital services to allow customers to provide information online
- developing the infrastructure to support the CDS system, hosted in the Cloud to provide scalability and resilience
- integrating these new and existing components. Integration was identified as a particular challenge in the NAO report, and so I have set out more details on integration progress below.

We have made good progress since the NAO review including:

- integrating digital infrastructure, and completing a large proportion of the work required to provide a new digital service allowing customers to register and subscribe to particular authorisations and products. We expect this to be completed in February 2018.
- developing a new risk profiling and reporting solution, based on our new Enterprise Data Hub, and populating it with a year’s worth of historical Customs data. We have already developed the ability to run simple risk rules against declaration data.
- implementing improvements to existing HMRC systems that will form part of the CDS solution, to ensure that CDS can match CHIEF’s existing ability for declarations to be submitted 24 hours a day.
- delivering a case management solution for customer applications for Authorised Economic Operator status. This is a significant moment, as it represents the first part of CDS to be adopted and used by HMRC staff. It provides the model for all other authorisations and is the first step in removing paper-based, manual processes within operational teams.

Testing the CDS system

Our development plans for CDS incorporate extensive testing activity, including:

- Functional testing, which ensures that the system does what we want it to. This is continuous activity that is built into every stage of our Agile development cycle, and we test each part of the system as we build it.
- Integration testing, which ensures that all the different components of CDS work properly with each other, and with other systems. We hit our September 2017 milestone for the first stages of integration testing and will test continuously from this point on. Integration was a key challenge highlighted in the NAO report, and so a more detailed progress update is below.

- Performance testing, to ensure that the system delivers the response times and reliability required of it under the volumes anticipated post-Brexit. System performance was a key risk highlighted in the NAO report, and so I have provided a detailed update on progress below.
- End-to-end testing, to ensure that CDS will work properly with the software used by traders, CSPs and others. This testing is only possible once we have sufficient functionality within CDS, so that trade software can interact with the developing system. In October 2017 we intend to carry out some early tests with two Community Service Providers to test connectivity between third party software and HMRC systems, by allowing them to submit dummy supplementary declarations, get a duty calculation, and receive a response back to their software. We are also on track to start wider trade test activity in December, with five software houses signed up to participate in more detailed testing, and the environment that will support this activity due to be delivered in mid-November.

Preparing for transition to the new service

Alongside the development and testing of the new service, we are preparing to move traders across to the new CDS system. To do that, we are carrying out activity to ensure that HMRC, traders, and third parties are all ready for the move to CDS. The NAO report highlighted the importance of detailed transition planning, and so I have set out in more detail below what we have done to further develop our transition plans since the NAO review. Other key delivery developments since the NAO report include:

- Preparing detailed guidance for HMRC staff, so that they are ready to support trade testing from December. We are also implementing new IT support arrangements from that point, and will be scaling up those support activities as more customers join the trade tests.
- Recruiting CSPs and software houses for trade test activity, and sharing information with them so that they are ready to participate.

We are on track to start moving traders across to CDS from August 2018, and the trade representatives who are involved with the programme are comfortable with progress and the level of engagement with the programme. I have provided more detail below about our activity to prepare traders for this transition.

An update against the risks described in the NAO report

Overall, the CDS delivery timetable remains tight, but delivery is progressing well and we are on track. We are managing a number of risks to delivery which are not unusual for a programme of this size, at this stage of its delivery lifecycle.

Risk that the IT system may not be ready

The NAO report highlighted that there was a risk that HMRC would not have the full functionality and scope of CDS in place by March 2019 when the UK plans to leave the EU. As we have set out above, we are on track with the development of the IT system and our delivery confidence (which was validated by independent experts from the Infrastructure and Projects Authority through a critical friend review) remains at amber.

In addition to the steps set out elsewhere in this paper to manage specific delivery risks, we have a number of controls in place to manage the programme and secure delivery on time:

- We have embedded strong programme management disciplines throughout this work. Delivery teams carry out regular reviews of progress, we have a weekly delivery review meeting that is chaired at director level, and the Programme Board meets monthly to scrutinise progress.

- We are maintaining regular contact with other government departments and agencies with an interest in the border, especially Home Office, Border Force, DIT, BEIS and DEFRA/Port Health, to ensure that those with a dependency on CDS are engaged in delivery. We are also working closely with the Department for Exiting the EU, to ensure that our work to develop CDS is closely joined up with work to prepare for the UK's exit from the EU. And we have representatives from both trade and other government departments on the CDS Programme Board, to ensure that our customers have a strong voice in CDS decision making processes.
- We have robust independent assurance frameworks in place with Treasury, the Infrastructure and Projects Authority and the Government Digital Service. CDS has undergone eight separate assurance reviews since 2015. We have action plans in place to manage the recommendations arising from those reviews, and there are currently no outstanding recommendations.

Additionally the two directors with responsibility and oversight of the CDS programme are both graduates of the Major Projects Leadership Academy. While delivery remains challenging, we have currently not identified any issues that suggest we would not meet the January 2019 timetable.

Integration

The NAO report highlighted that the integration of new systems with each other, and with the rest of HMRC's infrastructure, would be challenging.

The integration challenge arises in part because CDS is made up of a number of components, including two Commercial Off-The-Shelf (COTS) products, and some existing systems within HMRC's IT estate. Those technology components need to be integrated, so that they work seamlessly to deliver the new CDS service.

Our approach is based upon integration testing within each component, and then testing end to end across the components. That integration is proceeding to plan, with key developments so far being:

- We have already carried out some integration of CDS components within a test environment, and are now in the process of migrating those components into the cloud environment that will provide the permanent home for CDS.
- As we develop the CDS system, integration work and testing will take place as part of the building of CDS – so that we are not storing up an integration challenge for the final stages of the programme. Under our SAFe Agile methodology, we conduct a thorough review of progress and carry out detailed planning every ten weeks which allows us to quickly adapt and prioritise in response to any emerging development or integration challenges.

Our integration work is progressing as planned, and we have not identified any significant integration issues that would indicate that the CDS system will not work as expected within HMRC's IT estate.

CDS service performance

The NAO report highlighted a risk that CDS may be unable to handle the increased volume of Customs declarations that is expected once the UK leaves the EU.

Leaving the EU is likely to mean that the CDS system will need to handle significantly higher volumes of declarations than anticipated when this programme first started (although this will depend upon the final deal with the EU). We have done further work since the NAO review to understand the volumes that the CDS system will need to be scaled for, and on the strength of that are now working with suppliers to ensure that it will be able to handle:

- A higher overall number of declarations within a 12 month period (which we anticipate could rise to 255 million)
- Peak periods for submitting declarations (where we are planning for CDS to be able to handle 100 declarations per second).

Work is underway to increase the capacity of CDS to these levels, and we have expanded our testing teams to deliver this work.

So far, we have focussed on assessing the capacity of individual components which has allowed us to identify those parts of the CDS software that are already able to operate at higher volumes, as well as those parts of the software that are likely to need enhancement. For those parts of the system that will require enhancement, work is now underway to assess the best way of scaling up capacity.

As each component is tested and its capacity is increased, we will undertake further testing to ensure that the CDS system as a whole is still able to perform under anticipated volumes when all of those components are brought together.

While we have identified a number of technical challenges that we are addressing, we have not identified any issues to suggest that CDS will not support the volumes required. We are confident that the continuous testing approach that we are taking will allow us to identify any issues relatively early, and to work with our suppliers to resolve those issues.

Resourcing the CDS Programme

The report identified that CDS had been operating with a significant number of staff vacancies. That is often to be expected on an Agile programme of this size, but we have managed the position carefully and through active prioritisation and resource management, have ensured that this has not impacted our ability to hit critical milestones. We have taken decisive action to address resourcing needs through a combination of internal recruitment and engaging contractors with the skills that we need. In particular, we have:

- Introduced a more structured processes to escalate resourcing needs and foresee resourcing demand prior to any impacts.
- Tracked the progress of vacancies weekly, so that we can act urgently if crucial roles are going unfilled.

This has led to an improvement in resourcing since July. At present, CDS has 12 vacancies across the programme (only 3 of these are urgent – all of which are in the process of being filled), out of a total of more than 200 people working on the programme. This compares to 23 vacancies in September, 48 vacancies in June, and 67 in March.

Contingency plans

The NAO report recognised that HMRC had developed high level contingency options for use in the event that the CDS Programme does not deliver a fully functioning service by March 2019, but highlighted concerns that the timeline for delivery provided little flexibility or contingency prior to the UK exiting the EU in the event that delivery is delayed.

Our delivery plan envisages developing functionality to support the highest volume transactions first, and migrating the highest volume declarants to CDS at an early stage.

Since the NAO review, we have initiated contingency work to scale CHIEF so that it can handle an increased volume of transactions beyond March 2019, if required – ensuring that it remains a viable contingency option beyond that point if CDS is not available.

We are planning a period of dual running from August 2018 to coincide with the start of the transition period, in which we will be able to split declarations between the CHIEF and CDS

systems. Dual running will allow us to gradually increase traffic through the CDS system, and revert back to CHIEF in the event of any problems with the new system. Scaling CHIEF ensures that this contingency option remains viable beyond March 2019 (although it should be noted that CHIEF will not fully comply with the requirements of the Union Customs Code beyond this point).

Our contingency plans also include provision to vary the pace and timing of the transition period between August 2018 and January 2019 if CDS technology delivery is not ready for the planned date of August 2018, or if it does not perform as expected. Where there are delays to delivery, we would therefore look to re-plan the transition – giving us a contingency period that runs for seven months between August 2018 and March 2019 before the UK leaves the EU.

We have established a Contingency Programme that is looking across both CDS and wider work to implement the UK's exit from the EU, and will identify and progress any further contingency options that are required.

These contingency options ensure that we can manage risks to delivery that alter the pace of delivery between August 2018 and March 2019, while also ensuring that we retain the option of using CHIEF beyond March 2019 if CDS is significantly delayed. We are confident that these arrangements give us the ability to maintain customs activity beyond the UK's exit from the EU if required.

Trade and business readiness

We are on track to move businesses across to CDS starting from August 2018, and are hitting our key transition milestones. At the time of the NAO report, we had developed a high level transition strategy, but the NAO highlighted that we did not yet have a detailed transition plan.

Since the NAO review, we have developed our transition plan in collaboration with trade and industry representatives, and have increased the frequency of our meetings with businesses and delivery partners. We are implementing our transition plan – as outlined above, we have recruited CSPs and software houses to take part in trade test activity, and are delivering new guidance, training, and IT support arrangements in time for that activity to commence.

Our migration strategy will see us migrate a small number of carefully chosen customers to CDS first, before moving on to those customers who submit high volumes of declarations. We are working closely with software houses and CSPs, with monthly trade events to share information about CDS and regular one to one meetings with the two largest software houses (which together account for around 60% of declarations).

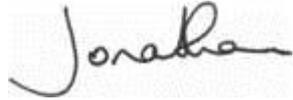
Customers will need to undertake business and IT readiness activities ahead of migration to CDS. They will need to be aware of changes to the information required for declaration submissions and any impact on their internal processes/workflows. To help them with this, the main software developers will need to update their reference materials and if necessary develop a training program for their users. We are working with software developers to ensure that those support arrangements are in place, and are planning an education campaign for those traders who do not use these software packages.

The NAO report also highlighted the need to support EU-only traders, who will need to make customs declarations for the first time when the UK leaves the EU. The nature of any obligations falling on these traders will be shaped by the outcome of negotiations with the EU. We will provide all traders and businesses with a single, clear picture of what they need to do as we move to the new CDS system and as the UK subsequently leaves the EU – including any traders who have to submit customs declarations for the first time from March 2019. As we have done with CDS, we will develop our plans for engaging those traders in partnership with trade representatives, and will include a range of education and support activities to ensure that all traders understand their changing obligations.

I hope the detail I have provided reassures the Committee that we have progressed CDS significantly since July. We are the first to acknowledge that we have a lot more work to do, and that we need to retain our tight control of risks to ensure the successful delivery of CDS by January 2019.

Nick, Kevin and I look forward to meeting with the Committee for more discussions about CDS later this month.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Jonathon", written in a cursive style.

**JON THOMPSON
CHIEF EXECUTIVE**