Response to REP5-142 – The Need Case remains unproven

Planning Inspectorate ref: EN020026 [redacted]

Executive Summary

- **The Ex A recommendation report and the Secretary of State decision letter for the Five Estuaries DCO do not show that Sea Link is required for connection of Five Estuaries.**
- **The Ex A recommendation report and the Secretary of State decision letter for the Rampion 2 DCO do not show that Sea Link is required for connection of Rampion 2.**
- **NGET was consulted for both the Rampion 2 and Five Estuaries OWF DCOs but failed to mention at all that Sea Link was required for the connection of either of them.**
- **The Applicant repeatedly uses incorrect values for the planned transfer and capacity.**
- **The Applicant repeatedly calculates incorrectly the deficit for the Sizewell Group, EC5 and LE1.**
- **When the correct values for planned transfer and capacity are used there is no deficit across EC5 and LE1.**
- **When the correct values for planned transfer and capacity are used the deficit for the Sizewell Group is 352MW but only by 2035 at the earliest.**
- **This deficit of 352MW can be dealt with by building a new OHL between Sizewell and Bramford before 2035.**
- **Sea Link is not critical nor urgent and there are more efficient and economical alternatives.**
- **There is a critical and urgent requirement to build a new OHL between Canterbury North and Kemsley to fully overcome the 6,516.2MW deficit identified for SC2.**
- **N.B. Even if Sea Link were granted consent there would still be the requirement to reinforce the infrastructure within SC2 to deal with the remaining 4,516.2MW deficit.**
- **Norwich to Tilbury is critical and urgent and the reinforcements suggested for the Sizewell Group and for SC2 will complement that project.**
- **The errors, omissions and misrepresentations cast doubt on the reliability of arguments and assumptions put by the Applicant.**

Rebuttal Point 3.1

I agree that the Applicant must "*ensure sufficient capacity for connections and systems reinforcement to reach compliance with the NETS SQSS*".

1) **For the Sizewell Group** there is a shortfall of 352MW. This can be rectified by either:

a) Installing a new 400kV 7,482MVA OHL between Sizewell and Bramford (55km).

Using data produced by the Institute of Engineering and Technology (IET) "A Comparison of Electricity Transmission Technologies: Costs and Characteristics" by Mott MacDonald April 2025 this gives a cost of:

15km price / km = £3.20m gives a cost of £176m
75km price / km = £2.95m gives a cost of £162m

This is a viable, more economic and efficient solution than Sea Link, to cover the minimal worst case post-fault deficit on the Sizewell Group and be SQSS compliant.

b) **Or installing a new 400kV 7,482MVA OHL between Sizewell and East Anglia Coastal**

NESO have recently published their "Transmission Works Register 02 April 2026" and at row 2398 gives details for a new OHL:

"*Build a new 400 kV double circuit between Sizewell 400 kV and East Anglia Coastal 400 kV substations with a minimum rating of 3000 MVA winter postfault. Extension of Sizewell 400 kV substation to accommodate 2 feeders from East Anglia Coastal 400 kV*".

This would add 6,000 MVA of capacity to the Sizewell group and easily overcome the 352MW deficit.

It should be noted that the deficit of 352MW only becomes applicable in the event that Lion link is consented but, in any event, only occurs when Sizewell C Stage 2 comes online which will be 2036 at the earliest. This deficit of 352MW is also dependent on EDF being granted permission for Sizewell B to extend its working life beyond 2035 which, at the time of writing, hadn't been granted.

This project could easily be completed before 2035 / 2036 then with no further reinforcement required.

2) **For EC5** there is a deficit stated by the Applicant as circa 9,700MW in APP-320 p35.

This figure is based on a planned transfer of 23,007.7MW and a post fault (Walpole to Pelham) capability of 13,304MW. However, the planned transfer of 23,007.7MW includes Nautilus which is no longer relevant to the EC5 boundary. This gives a planned transfer of 21,507.7MW.

The figure of 13,304MW also appears to be incorrect:

Norwich to Tilbury new OHL	6,930MW (EN020027)
Bramford to Twinstead new OHL	6,930MW (EN020002)
Bramford to Pelham existing	3,102MW (EN020002 APP-161 Table 3.3).
Bramford to Rayleigh with upgrade	6,380MW (APP-320 p36).
Total capability across EC5	**23,339MW**

This exceeds the planned transfer of 21,507.7MW.

Unfortunately, the Applicant does not give details as to how they arrive at the 13,304MW but the difference could be explained by the Applicant omitting the existing Bramford to Pelham and the Norwich to Tilbury project in their calculations.

It is not clear why any additional measures, including Sea Link, are required as there is no deficit if the post fault scenario indicated above occurs.

Norwich to Tilbury is critical, Sea Link is not.

3) **For LE1** there is a deficit stated by the Applicant as 7,467MW in APP-320 p36 and 37.

This figure is based on a planned transfer of 11,000MW + 2,856MW =13,856MW and a post fault (Pelham to Rye House) capability of 6380MW. However, the 11,000MW includes Nautilus which is no longer relevant reducing the planned transfer to 12,356MW.

The post fault capability across LE1 only appears to include (Pelham to Rye House) of 6380MW and does not include the Norwich to Tilbury new OHL of 6.930MW. The post fault capability across LE1 is, in reality, 13,310MW which exceeds the planned transfer of 12,456MW.

It is not clear why any additional measures, including Sea Link, are required as there is no deficit if the post fault scenario indicated above occurs. Norwich to Tilbury is critical, Sea Link is not.

4) **For SC2** there is a deficit of 6,516.2MVA. It appears there are two alternatives:

a) Sea Link at a cost of at least £1.1 billion. Unfortunately, this project only deals with 2.000MVA which leaves an unsatisfied deficit of 4,516.2MVA. Even by replacing the switchgear for the existing OHL to handle up to 4,192MVA would still leave a large deficit of a least 2,738MVA. **This solution is therefore not NETS SQSS compliant**.
b) Installing a new 400kV 7,482MVA OHL between Canterbury North and Kemsley at a cost of circa £90m. This would be NETS SQSS compliant and would give resilience to the network.

In ALL cases there is no justification for Sea Link.

Infrastructure improvements that are already in place or planned, excluding Sea Link, enable the system to be NETS SQSS compliant for the Sizewell Group up to 2035 at the earliest and for EC5 and LE1 completely.

- The Norwich to Tilbury upgrade is critical and urgent to address the identified deficits across EC5, LE1 and to facilitate the connection of Five Estuaries and North Falls.
- A new Canterbury North to Kemsley OHL is critical and urgent to address the 6,516.2MW identified.
- A new Sizewell to Bramford OHL is not urgent because:

For the worst case fault identified for the Sizewell Group, a deficit of 352MW will not arise until the late 2030s at the earliest, and only then if: both Sizewell C reactors are fully operational and Sizewell B is granted an extension to its operating life and all the current OWF contracted connections are made AND Lion Link (a non-consented interconnector proposed by NGV, a sister company of NGET) is fully operational. Without Lion Link, there would be a healthy surplus on the Sizewell Generation Group.

Rebuttal point 3.2

The Applicant suggests that "*such options would only address the Sizewell Group demand and the SC2 Kent demands in isolation"*. This seems, at best, an odd accusation. The reality is that:

a) Sizewell to Bramford:

i) Links with the new Bramford to Twinstead reinforcement. (EN020002)
ii) Links with the proposed Norwich-Bramford Tilbury upgrade. (EN020027)
iii) Links with the proposed Pelham to Rayleigh upgrade.

b) Canterbury North to Kemsley:

i) Links to Tilbury via the new upgraded OHL between Kemsley and Littlebrook.
ii) Links with Tilbury via Grain.
iii) Links with the London Power tunnels via Littlebrook.

In combination:

Sizewell to Bramford to Tilbury to Littlebrook to Kemsley to Canterbury North.

c) Canterbury North to Kemsley new OHL

The Applicant included a new OHL between Canterbury North and Kemsley in its option choices for the Norwich to Tilbury upgrade (EN020027) which is the subject of a separate DCO.

In EN020027 APP-357 pages 45 and 46 the new Canterbury North to Kemsley OHL is referred to as CAKE.

The East 3 option, fully analysed by the Applicant, included the Canterbury North to Kemsley (CAKE) and Bramford to Tilbury (ATNC) upgrades. The East 3 option also included Tilbury to Grain (TENC) but this does not have a proceed signal. However, according to EN020027 APP-357 p46 the "*Tilbury to Grain and Tilbury to Kingsnorth upgrade (TKRE) does have a proceed signal*".

This gives an additional connection:

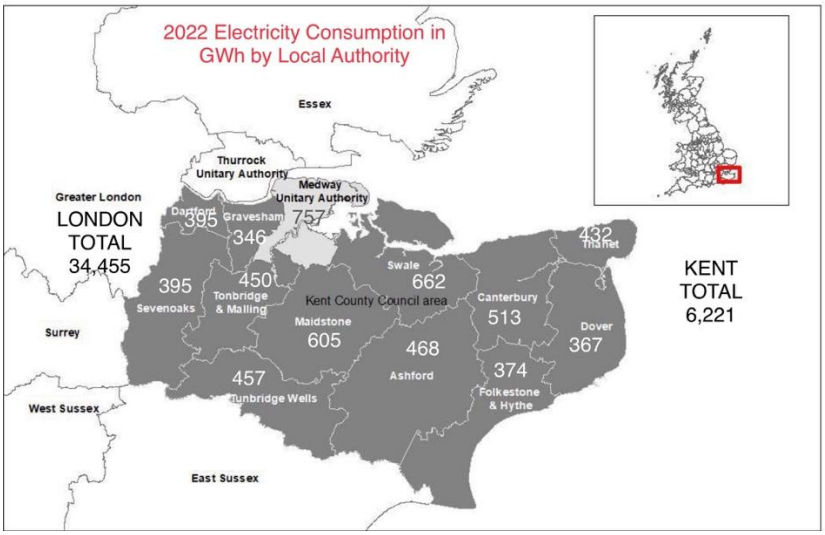
Sizewell to Bramford to Tilbury to Grain to Kemsley to Canterbury North.

In reality, there is no reason for electricity to flow from Sizewell to Kent and vice versa because both have an excess of supply over demand. What is achieved by the two upgrades suggested by SEAS, in addition to the points already made, is it enables electricity to flow from Sizewell to Tilbury and from Canterbury North to Littlebrook via Kemsley to serve the high electricity demands of the London area.

For example, both Tilbury and Kemsley have links to Littlebrook which in turn links to the newly constructed London Power Tunnels via Hurst.

In response to the Applicants pre-application consultations, I submitted information which I think is relevant to this point. Using "subnational electricity consumption statistics" published by the government I produced a map showing the electricity consumption in GWh for each local authority and for the Greater London area for 2022. The results are shown on the map below:

The Kent County Council area and neighbouring authorities



The consumption in East Kent is minimal compared with West Kent and the consumption for the whole of Kent (6,221GWh) is dwarfed by the consumption in Inner plus Outer London (34,455GWh).

N.B. Updated (2024) figures give Kent as 5,427GWh and for Inner plus Outer London as 34,801GWh.

It is logical, efficient and economical for the new Sizewell to Bramford OHL to connect at Bramford to the Norwich to Tilbury upgrade bringing renewable energy to where it is needed rather than East Kent.

It is logical, efficient and economical for the new Canterbury North to Kemsley OHL to connect to the newly upgraded Kemsley to Littlebrook OHL bringing renewable energy to where it is needed rather than Sizewell.

Rebuttal Point 3.3

I can find no reference in any of the representations by SEAS that suggest that calculations should be non-scaled. Unfortunately, the Applicant provides no reference to where this statement by SEAS appears.

Rebuttal Point 3.4

3.4.1 The deficit outlined by the Applicant for SC2 is based on the Planned Generation shown in APP-320 Table 3.4. APP-320 Para 3.6.3 and Para 3.6.4 outline how the "Economy Planned Transfer" is calculated using a "scaling factor". For interconnectors, the scaling factor is 1.0 so all calculations already assume "high (100%) connector flows into Kent". This argument is therefore fatuous.

3.4.2 This has already been addressed since:

a) there is no deficit across EC1 and LE1 when all correct values of planned generation and capacity are used.

b) Sea Link does not address fully the deficit in SC2 so further reinforcement would be required.

3.4.3 - 3.4.6 These points have already been addressed in my answer to Rebuttal points 3.1 and 3.2 above but in summary "a new OHL between Canterbury North to Kemsley fully addresses the deficit across SC2, Sea Link does not".

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Rebuttal Point 3.5

Introduction

At 3.5.3 the Applicant includes a screen grab of the Clean Power Annex 2 Table 1 but mistakenly use the part referring to the Norwich to Tilbury project. I assume they meant to show the part referring to Sea Link and its relevance to Five Estuaries and Rampion Extension (Rampion 2):

It says that Sea Link is "*required for connection of Five Estuaries OWF and firm connection of Rampion Extension*".

The Applicant states at 3.5.4 that:

"*As set out in the Strategic Options Back Check Report [APP 320] "Needs Case", Sea Link is required to ensure there is sufficient cross boundary capacity, on boundaries EC5, LE1 and SC2, to allow these generators to connect while maintaining NETS SQSS compliance and avoid constraints. Specifically, Rampion Extension connects within SC2 boundary and Sea Link is required to reinforce this boundary to facilitate the firm connection of Rampion Extension*".

A) Taking 3.5.4 first:

The issue of cross boundary capacity across the Sizewell Group, EC5, LE1 and SC2 has already been dealt with in 3.1 above.

The Applicant is implying in 3.5.4 that APP-320 details why Sea Link is required to reinforce this [SC2] boundary to facilitate the "firm connection of Rampion Extension".

This is somewhat perplexing because the Rampion Extension (Rampion 2) is not mentioned at all in APP-320 and to imply otherwise is, at best, misleading.

B) Reliance on Clean Power 2030 (CP30)

i) The claim that Sea Link is "*required for the firm connection of Rampion 2*"

- At no time throughout this Sea Link examination, has the Applicant presented any evidence as to why Sea Link is required to enable a firm connection of Rampion Extension.
- Rampion Extension was the subject of a DCO[1] examination which completed in August 2024.
- The Ex A recommendation report, published on 6th November 2024, 3.3.4, says, in relation to connection points:
  "*…This part of the process is not fully in the control of the Applicant. NGET ultimately determine where the most appropriate connection point should be as part of the Connections Infrastructure Option Notice (CION) process and in this case, ran parallel with the Applicants options appraisal process and focussed on the technical and system capacity for facilitating an efficient new connection to the transmission network and overall consideration of cost to the consumer*."
- At 3.3.5, says, in relation to connection points, NGET:

  "*…was asked to identify potential substation locations along transmission lines which largely run in an east/west alignment in the south of England. While many were identified, only three were considered as capable or potentially capable of accommodating the 1200MW to be generated by the Proposed Development. They were:*
  ** The Bolney substation, which is the proposed choice.*
  ** Fawley.*
  ** Little Horsted, which is not currently operational but is expected to be by the time the Proposed Development would be completed.*"
- NGET was clearly consulted for the Rampion 2 DCO but did not raise any concerns on the need for further infrastructure reinforcement for SC2 to enable Rampion 2 to be connected.
- There is no mention of Sea Link anywhere in the Rampion Extension DCO recommendation report nor any indication that further infrastructure reinforcement would be required for the "*firm connection of Rampion Extension*" (which will be made at a 400kv substation at Bolney, West Sussex, close to the western edge of the SC2 boundary)
- The Secretary of State's Decision of 4 April 2025 refers to CP30, but it is simply to say this at 4.5:
  "*…Following the consultation on reforms to the 2023 NPPF, a new NPPF was published 12 December 2024 ("2024 NPPF") Clean Power 2030 Action Plan ("CP2030") was published 13 December 2024 and sets out a pathway to a clean power system*".
- The Secretary of State considered the Clean Power 2030 Action Plan in coming to his decision and at no time was the capacity within SC2 raised as a concern. Indeed, it was never mentioned at all. **The Secretary of State did not indicate that Sea Link was required for the "*firm connection of Rampion Extension*".**
- **As this connection can be made without any need for Sea Link, we conclude that Sea Link is not required to support a firm connection of Rampion Extension.**

i) The claim that Sea Link is "*required for connection of Five Estuaries*"

[1] Rampion 2 recommendation report and decision letter

- Five Estuaries was the also subject to a DCO[2] which culminated in a Report dated 17th June 2025, well before the start of this Sea Link Examination.
- NGET were consulted as part of the DCO but did not stipulate that Sea Link was required for the connection of the Five Estuaries OWT.
- The Five Estuaries recommendation report mentions Sea Link repeatedly, but only in order to discuss the abandoned feasibility work exploring *offshore* connection:

  3.2.9 The single main alternative option to the development as proposed would be to connect the Five Estuaries wind turbine generator (WTG) array areas to National Grid's proposed Sea Link project, a point-to-point offshore cable link between Suffolk and Kent to reinforce the nation's onshore transmission network. This alternative option would have the effect of removing the need for any of the proposed onshore development within Essex. The application for the Sea Link project (EN020026) was accepted for examination on 23 April 2025.

  3.2.11 The applicant, along with the NF OWF and Sea Link (NGET), applied as a consortium for grant funding as part of the Offshore Coordination Support Scheme (OCSS). In December 2023 the Government announced that the consortium had been successful in receiving grant funding to explore the feasibility of a coordinated offshore solution. In March 2024, the consortium submitted a feasibility study [PD4-008] to the Department for Energy Security & Net Zero (DESNZ) as the next step of the grant funding agreement.
  3.3.11. In respect of the potential alternative option of an offshore connection, the applicant confirmed to us in section 2 of [PD4-006] that DESNZ on 3 September 2024, having reviewed the feasibility study [PD4-008] had decided not to grant further funding to explore the option of a coordinated offshore connection. Accordingly, the applicant confirmed in [PD4-006] that without further funding it would no longer be pursuing the option of an offshore connection.

  3.3.12. Further to our request during CAH1, Essex County Council submitted a copy of the letter issued by DESNZ [AS-011]. During CAH1, the ExA questioned the applicant about the feasibility study [PD4-008], with the applicant providing reassurance on the independence of the author of the study in investigating the practicalities of connecting to Sea Link and arriving at conclusions regarding costs and timescales in paragraph 1.3.19 of [REP1-059].
  3.3.13. During the examination no parties queried the proposed landfall location. Whilst there were some issues raised regarding the siting of the proposed substation and the onshore and offshore cable routes, these were micro-siting issues rather than challenges regarding alternative routes or locations.

  3.3.14. We are content that as part of the submitted ES [APP-066] the applicant has considered reasonable alternatives to the proposal for which it is seeking consent and has provided sufficient information as to why those alternatives were discounted.

- The recommendation report makes clear **exactly what** is required to connect Five Estuaries OWF to the grid, and it is **not Sea Link**, rather it is the Norwich to Tilbury Reinforcement Project and the associated East Anglia Connection Node substation:

  6.5.8 In order for the proposed development to connect to National Grid's transmission system, the proposed Norwich to Tilbury Reinforcement Project and the associated East Anglia Connection Node (EACN) substation would need to be operational. Despite the pre-application stage that National Grid's project is at, given the proposed development's dependency on it, the

[2] Five Estuaries recommendation report and decision letter

applicant's CEA affords that project greater consideration than other projects at a similar stage in the planning process. For the purposes of the cumulative assessment of the two projects, the worst-case delivery scenario, with limited co-ordination was assessed for the direct and indirect impacts.

- On 17th December 2025, the Secretary of State accepted the recommendation report, and said nothing material to alter the above.

Regarding the claim that CP30 confirms that Sea Link is still "*required for connection of Five Estuaries OWF and firm connection of Rampion Extension*" is not supported within the decision letters issued by the Secretary of State for either Five Estuaries OWF or Rampion 2.

a) Urgency

i) Sizewell Group

In 3.5.7 the Applicant talks about urgency but as has already been stated, the Applicant has until at least 2035 to complete any upgrade in the Sizewell group.

ii) SC2

The Applicant will have to upgrade the infrastructure anyway to overcome the 4,516.2MW even if Sea Link is approved.

Therefore, the Applicant will have to fast track such improvement i.e. build the new OHL as soon as possible making Sea Link unnecessary. As has already been stated, NGET have already investigated the viability of a new OHL between Canterbury North and Kemsley (CAKE) as part of the Norwich to Tilbury upgrade which should speed up the process.

Lack of consistency and accuracy from the Applicant

Throughout the examination, the Ex A will be aware that there have been numerous examples where the documentation presented by the Applicant has contained many errors, omissions and generally lack attention to detail.
There are a number of these issues which, I feel, are necessary to draw to your attention because they highlight a concern that it is difficult to trust any facts, figures and arguments the Applicant produces. Mistakes will inevitably occur in a projects as big as this but when they are within key documents that are used to argue the need case then it is difficult to accept.

1) Repeated inclusion of the Nautilus interconnector

Although it was known by the Applicant before the project was accepted for examination, the incorrect inclusion of Nautilus connecting within the Sizewell group gave rise to incorrect values for the deficits for the Sizewell group, across EC5 and across LE1. Why was APP-320 not superseded by a document that contained the correct tables and calculations?

2) Lack of intra project consistency

One would expect that the two projects, Norwich to Tilbury and Sea Link, both brought forward by NGET, both being examined at the same time and both involving the same groups and boundaries (Sizewell, EC5, LE1 and SC2) would use the same data and assessment methods.

a) Different years used for examination

i) Gives rise to different deficits for the Sizewell group, EC5, LE1 and SC2.

- For the Sea Link project, in APP-320 Table 3.2 and Table 3.4, the Planned Generation and Planned Transfer for East Anglia and SC2 respectively go up to 2037.

- For the Norwich to Tilbury project, in APP-357 Table 3.2, the Planned Generation and Planned Transfer for East Anglia only goes to 2031. There is no corresponding Table for SC2.

The data was clearly available for both DCOs so why the discrepancy?

For example, in the Sizewell group, if the 2031 data had been presented for examination for the Sea Link project, there would be no deficit once Nautilus is removed from the calculations. EN020027 APP-357 Table 3.8 shows a deficit of 600MW but that becomes a 900MW surplus when Nautilus is removed.

There is a real problem with using planned generation too far in advance because it has been acknowledged that a large percentage of consented projects will never get built. Matthew Magill from National Energy System Operator (NESO) said in October 2025 in an article "Connections Reform: The Key to unlocking GB growth":

"For years, Great Britain's grid connection process operated on a first-come, first-served basis, designed for a simpler energy market, with only a few big fossil projects, in an orderly queue.

The outcome? A connections queue now exceeding 800GW, over four times the capacity needed to deliver clean power by 2030, and twice what's required to reach net zero by 2050. This reflects the extraordinary ambition across Great Britain, but the current system was never built to handle the scale or urgency of today's energy transition, and the connections process was in dire need of modernisation."

He goes on to say:

"*As a result, only projects that are both critical to delivering clean energy and ready to progress will be prioritised and assigned firm connection dates*".
Has the Applicant carried out a re-evaluation of the planned generation listed in APP-320 Table 3.2 and Table 3.4 to check which ones are likely to proceed and / or are required to achieve Net Zero by 2030?

Such a re-evaluation is surely essential to enable an informed decision regarding infrastructure upgrades.

b) Different selection criteria used

For the EC5 boundary, the Applicant gives a range of reinforcement required for both the Norwich to Tilbury project and also for the Sea Link project. Unfortunately, due to using different years we end up with two completely different ranges. In EN020027 APP-357 4.7.12 it gives the range as 3,500MW to 8,000MW. In APP-320 3.7.12 it gives the range of 9,700MW to circa 13,000MW.

In EN020027 APP-357 4.7.12 the Applicant states:

"*With the SQSS requiring us to design the network to accommodate the 8,000MW* ***upper range***." (my emphasis).

In APP-320 3.7.12 the Applicant states:

"*With the SQSS requiring us to design the network to accommodate the 9,700MW **lower range***." (my emphasis).

How can the lower value be applicable for one project but not the other?

c) Discrepancy in calculated values

In EN020027 APP-357 3.7.1 the Applicant calculates incorrectly additional transfer as 2,956MW giving rise to an incorrect deficit for LE1 of 7576MW.

In APP-320 3.7.15 the Applicant correctly calculates the additional transfer as 2,856MW giving a deficit for LE1 of 7,476MW.

N.B. Although this is a minor error by NGET it is symptomatic of a wider issue.

d) Omission of other connections in calculations

i) As outlined in our reply to the 3.1 rebuttal for the EC5 boundary the capability across EC5 appears to have been grossly wrong with the Applicant omitting known capabilities.
ii) As outlined in our reply to the 3.1 rebuttal for the LE1 boundary the capability across LE1 appeared to omit the Norwich to Tilbury capacity.

For all the reasons outlined above one starts to question whether any of the data and assumptions put forward by the Applicant can be trusted.

David Stevens.