



**DfI**

Department  
for Infrastructure

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## **EU Tachograph Regulation 165/2014**

### **Regulatory Impact Assessment**

**July 2016**

<b>Title:</b> Regulation No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport.	<b>Regulatory Impact Assessment (RIA)</b>	
	<b>Date: July 2016</b>	
	<b>Type of measure:</b> Subordinate Legislation	
<b>Lead department or agency:</b> Department for Infrastructure	<b>Stage:</b> Initial	
	<b>Source of intervention:</b> Domestic NI	
<b>Other departments or agencies:</b> Driver and Vehicle Agency	<b>Contact details:</b> Susan Stewart	
	Road Safety and Vehicle Regulation Division	
	Dfi	

## Summary Intervention and Options

<b>What is the problem under consideration? Why is government intervention necessary? (7 lines maximum)</b>				
Regulation 3821/85 which is the current EU Tachograph Regulation has been amended a number of times since it was first published and there was a desire within the EU to consolidate the tachograph rules. The new EU Regulation 165/2014 (the new Regulation) is directly applicable in all Member States, therefore it does not have to be transposed into domestic law to allow it to take effect; however, the Department has to ensure that the domestic enforcement framework reflects the new Regulation and any new requirements.				
<b>What are the policy objectives and the intended effects? (7 lines maximum)</b>				
The new Regulation is aimed at helping to tackle fraud by making the tachograph more resistant to tampering as well as allowing for easier enforcement. It also aims to reduce administrative burdens. Furthermore, it strengthens standards that workshops must meet in order to install, check, inspect and repair the tachograph. It extends some exemptions and national derogations set out in EU drivers' hours rules (Regulation (EC) 561/2006). The intended effects of the new Regulation is to address tachograph fraud by minimising tampering and to make it easier for enforcement officers and road transport operators to get more constructive information from the tachograph.				
<b>What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base) (10 lines maximum)</b>				
Option 1: Do nothing				
Option 2: Transpose the new Regulation - The domestic legislative framework will be updated as soon as possible after 2 March 2016, being the earliest date when the new Regulation can fully take effect. The existing tachograph regulation (EC 3821/85) will not be fully repealed until 2 March 2016 at the earliest and therefore our current domestic legislative framework will remain in place until then. There are however some provisions of the new Regulation which took effect from 2 March 2015 and some DVSA and DVA practices have changed as a result.				
<b>Will the policy be reviewed?</b> No – EU Legislation			<b>If applicable, set review date:</b> NA	
<b>Cost of Preferred (or more likely) Option</b>				
<b>Total outlay cost for business</b> £		<b>Total net cost to business per year</b> £		<b>Annual cost for implementation by Regulator</b> £
£260,000 over 10 years		£26,000		£500
<b>Does Implementation go beyond minimum EU requirements?</b>			<b>NO</b> <input checked="" type="checkbox"/>	<b>YES</b> <input type="checkbox"/>
Are any of these organisations in scope?	<b>Micro</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Small</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Medium</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Large</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

The final RIA supporting legislation must be attached to the Explanatory Memorandum and published with it.

Approved by: Liz Loughran Date: 11 July 2016

Description:

The implementation in Northern Ireland of EU Regulation No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85

**ECONOMIC ASSESSMENT (Option 2)**

Costs (£m)	Total Transitional (Policy) (constant price) Years		Average Annual (recurring) (excl. transitional) (constant price)	Total Cost (Present Value)
Low	Optional	10 Yrs	Optional	Optional
High	Optional		Optional	Optional
<b>Best Estimate</b>	<b>0 (all recurring)</b>		<b>£26,400</b>	<b>£147,342</b>

**Description and scale of key monetised costs by 'main affected groups'** Maximum 5 lines

Annual cost to business of £25,872 for new tachograph and related technology costs  
Annual cost to govt of £500 (negligible) for additional audit time

**Other key non-monetised costs by 'main affected groups'** Maximum 5 lines

NA

Benefits (£m)	Total Transitional (Policy) (constant price) Years		Average Annual (recurring) (excl. transitional) (constant price)	Total Benefit (Present Value)
Low	Optional	10 Yrs	Optional	Optional
High	Optional		Optional	Optional
<b>Best Estimate</b>	<b>0 (all recurring)</b>		<b>£35,000</b>	<b>£293,022</b>

**Description and scale of key monetised benefits by 'main affected groups'** Maximum 5 lines

Annual time saving for business which increases annually as more of fleet use new tachograph technology.

**Other key non-monetised benefits by 'main affected groups'** Maximum 5 lines

Enforcement and fleet management benefits have not been quantified

**Key Assumptions, Sensitivities, Risks** Maximum 5 lines

Cost assumptions taken from EC Impact Assessment.  
Time benefits based on newly registered vehicles and Transport Appraisal Guidance (TAG) values of time.  
See Appendix A for detailed NPC calcs.

**BUSINESS ASSESSMENT (Option 2)**

Direct Impact on business (Equivalent Annual) £m		
Costs: £25,872	Benefits: £35,083	Net: £9,211

**Cross Border Issues (Option 1)**

**How does this option compare to other UK regions and to other EU Member States (particularly Republic of Ireland)** Maximum 3 lines

Regulations transposed similarly throughout Europe.

## **Evidence Base**

### **Purpose and intended effect of measure**

This draft Regulatory Impact Assessment supports the implementation in Northern Ireland of EU Regulation No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85 on recording equipment in road transport and amending EC Regulation No 561/2006 of the European Parliament and of the Council on the harmonisation of certain social legislation relating to road transport (“the EU Regulation”).

The new Regulation is aimed at helping to tackle fraud by making the tachograph more resistant to tampering as well as allowing for easier enforcement. It also aims to reduce administrative burdens. Furthermore, it strengthens standards that workshops must meet in order to install, check, inspect and repair the tachograph. It extends some exemptions and national derogations set out in EU drivers’ hours rules (Regulation (EC) 561/2006).

### **Background**

The tachograph is a device that records the driving time, breaks, rest periods as well as periods of other work undertaken by a driver. Council Regulation (EEC) 3821/85 on recording equipment in road transport provides the basis for the tachograph. This is aimed at helping to enforce the rules on driving times, rest periods and monitoring the driving times of professional drivers in order to prevent fatigue, and guarantee fair competition and road safety.

Since 2006, tachographs have been digital which allows a more secure and accurate recording and storage of data than the previous analogue tachograph. This device records all the vehicle’s activities, for example distance, speed and driving times and rest periods of the driver. The system includes a printer for use in road side inspections and the driver has a card incorporating a microchip, which the driver must insert into the tachograph when taking control of the vehicle. This personal driver card ensures that inspections remain simple.

It is obligatory to install a digital tachograph in new vehicles having a mass of more than 3,5 tonnes (in goods transport) and carrying more than 9 persons including the driver (in passenger transport).

Regulation 3821/85 has been amended a number of times since it was first published and there was a desire within the EU to consolidate the tachograph rules. The EU Regulation is directly applicable in all Member States, therefore it does not have to be transposed into domestic law

to allow it to take effect; however, the Department has to ensure that the domestic enforcement framework reflects the new Regulation and any new requirements.

The EU Regulation sets out higher standards that workshops must meet to install and calibrate the tachograph. It also extends exemptions and derogations from drivers' hours rules.

In addition, the EU Regulation provides for a new technical specification for digital tachographs and cards, so a new generation of tachographs will enter the market around 2019 – the development of technical specifications is ongoing. These tachographs will include GPS, interface with intelligent transport systems and remote enforcement capability. In addition, there is further work ongoing regarding sealing of tachographs. The new tachograph specification is being set to help combat tachograph fraud, and will introduce GPS which should help ensure better compliance with rules on driving times and rest periods.

The EU Regulation stipulates that a set of clear guidelines relating to the approvals of fitters and workshops. NI already has a set of guidelines – the Approved Tachograph Centre Manual (ATCM) which is maintained by the Driver and Vehicle Agency (DVA). This will be updated to reflect the EU Regulation and a number of other technical amendments.

The EU Regulation also introduces further rules relating to audits of fitters and workshops. From 2 March 2015 DVA are required to audit tachograph centres every two years on the procedures they apply when handling tachographs. DVA already carry out annual audits of tachograph centres which they will continue to do. DVA will however change the format of their audit visits to being unannounced, which is a change from the existing arrangements. This change is being introduced to ensure compliance with Article 24 (3)(b).

In addition, they will include within their audit check of each centre a re-calibration of a previously calibrated vehicle by an approved technician, observed by the DVA Auditor. This will satisfy the requirement for a 'technical audit' to ensure compliance with Article 24 (3)(b).

The above modifications to their existing regime will ensure full compliance with Article 24.

### **Risk assessment**

The Department is obliged under European Community (EC) law to implement the EU Regulation. Failure to do so would be a breach of such legal obligations and would expose the UK, as Member State, to infraction proceedings and potentially Northern Ireland to significant financial penalties.

Failure to fully transpose the EU Regulation would also mean that its objectives would not be achieved in respect of NI. In such circumstances, the enhanced anti-fraud measures and the advances in technological specifications for digital tachographs and cards could have the effect of restricting transparency and competition and would put NI freight and road industries at a disadvantage in comparison with competitors in other Member States where transposition of the EU Regulation had been achieved.

## **Consultation**

The Department jointly consulted on this issue with the Department for Transport. Tachograph issues are a transferred matter to the North of Ireland and it is usual for consultations on transferred matters to be carried out by the relevant devolved administration. Given that the required changes stem from the EU Regulation and will apply UK-wide, it would seem appropriate, on this occasion, to issue this for both Britain and the North, on a UK-wide basis.

The Department considers the implementation of this Regulation, given that it is directly applicable and concerns a broadly technical area, to be of limited interest to the wider public and have therefore mainly sent this paper to organisations or individuals that have an interest in tachographs – this includes trade associations, trade unions, road safety organisations, tachograph manufacturers, workshops, enforcement agencies, and others involved in the tachograph industry.

The consultation ran for eight weeks from 17 March 2015 to 12 May 2015. On areas where there is flexibility, we consulted on the following proposals:

- Field testing of tachographs - The EU Regulation allows Member States to authorise real life testing of tachographs before they go on the market.
- National exemptions to drivers' hours rules - The EU Regulation creates an exemption for vehicles with a maximum weight not exceeding 7.5 tonnes, if they are only used for carrying materials, equipment or machinery for the driver's use in the course of his work, and are only used within a 100 km radius from the base of the company. The current exemption is set at a 50 km radius.
- Liability of transport undertakings - The Regulation allows Member States to either make transport operators liable for all offences committed by their drivers, or to make their liability conditional on having contravened their own primary obligations.
- Issue of temporary cards - Member States have the option of issuing temporary cards (lasting no longer than six months) for non-EU /AETR countries. AETR is the European Agreement Concerning the Work of Crews of Vehicles Engaged in International Road Transport and includes most non-EU European countries such as Russia, and some central Asian countries.

- Tachograph penalties - There is a requirement in the EU Regulation that requires Member States to lay down tachograph penalties, which are effective, proportionate, dissuasive and non-discriminatory. The EU Regulation also creates some new requirements, such as ensuring that tachographs can have their mode overridden manually, and prohibiting having more than one tachograph in a vehicle.

Thirteen responses were received to the consultation and there was broad support from respondents for the proposed approach to changes to legislation, including that from the Federation of Passenger Transport NI.

Following consideration of the position in the North and with the former DOE Minister's agreement, it was decided to proceed, in line with Britain, with implementation of the changes consulted on. On areas where there is flexibility, the DFI plans to:

- Ensure that field tests of tachographs can be authorised if Operators wish to take part;
- Extend national exemptions for drivers' hours rules, increasing the distance from 50km-100km; and
- Make transport undertakings conditionally liable for offences committed by their drivers.

The Department will not seek to introduce temporary cards for drivers outside of the EU/AETR due to the lack of interest from stakeholders, and the costs associated with the DVA administering such a scheme.

The offences related to tachographs are mainly level 5 fines – in cases of fraud offences these can also lead to prison sentences of up to 2 years. Constraints set by the European Communities Act 1972, under which EU-related legislation is implemented, does not allow the Department to go beyond this. Most offences are dealt with at the roadside by issuing the driver with fixed penalty notices. Whilst the Department needs to ensure that the local offence structure reflects the requirements of the EU regulation, it does not consider that any new fixed penalties should be introduced.

## Options

Given the legislative requirement to introduce the new regulation, two options were considered:

1. Do nothing i.e. do not reflect the new Regulation in domestic legislative framework
2. Implement the new Regulation

The domestic legislative framework will be updated as soon as possible after 2 March 2016, being the earliest date when the new Regulation can fully take effect. The new Regulation is

intended to apply fully from that date. The existing tachograph regulation (EC 3821/85) will not be fully repealed until 2 March 2016 at the earliest and therefore our current domestic legislative framework will remain in place until then. There are however some provisions of the new Regulation which took effect from 2 March 2015 and some DVA practices have changed as a result.

Doing nothing was not considered to be the preferred option, as it perpetuates UK gold plating of the EU Regulation, potentially disadvantaging UK businesses.

## **Costs and Benefits**

The new generation Tachograph: The new generation of tachographs will include connection to a global navigation satellite system (GNSS) which will automate the recording of the daily journey start and end location. They will also provide for a remote enforcement capability, which will allow an enforcement officer to interrogate a digital tachograph remotely at the roadside to assess whether to stop a vehicle. A harmonised interface with intelligent transport systems (ITS) may also be introduced in these new tachographs. It has been estimated by the European Commission that GNSS, remote communications facilities and ITS functions could add around £7 each to the cost of a new vehicle. It was estimated during the Commissions Impact Assessment (which was developed in 2011) that new technologies would add around €5 – 10 each. We have taken the highest estimate which (on 10 March 2015) is equivalent to around £7.

Tachograph connection to a GNSS device to automate the recording of the daily journey start and end location

## **Compliance Costs**

The cost of the connection interface is estimated at £7 per tachograph, based on the Commission's impact assessment. With an estimated 1,232 new vehicles entering service in NI per year, the cost could be up to £8,624 (=£7x 1,232) per year. According to DfT statistics in the last 6 months of 2014 there were 468 new HGVs and 148 new PSVs registered for the first time in NI – for this assessment we have doubled this to get a yearly estimate (previous years statistics did not separate out new and used vehicles registered for the first time in NI). Therefore, the assumption is 936 new HGVs and 296 new PSVs per annum.

## **Benefits**

The time-savings benefit is based upon the time saved by the driver from manual entry of location data via the automated recording. The UK estimated time for manual entry during negotiations was 5 seconds per entry, twice per day x 227 working days = 37.8 minutes per driver year. It will only be for those vehicles using the new generation tachograph (estimated at 1,232 per year in NI). Therefore any saving will not start until 2019 and the time saving will



increase as more new generation tachographs enter the fleet each year. We propose that this change generates a time saving of £12,792 in 2019. These benefits would rise to £100,200 in 2025 as the new generation tachograph becomes more widespread in the fleet. This is based on the value of the driver time in the relevant year. The source used was webtag and these values are primarily aimed at GB, however without a better estimate for NI the same figures have been used. In 2019 an OGV (other goods vehicle) driver has an estimated market value of time of £16.38 per hour. For PSV drivers in 2019 it is £16.74. In 2025 they are £18.33 and £18.73 respectively.

A remote (wireless) communications function proposed to provide a signal, only on request, to allow an enforcement officer to assess whether to stop the vehicle for further checks

### **Compliance Costs**

The cost of the wireless transmitter is estimated at £7 per tachograph, based on the Commission's impact assessment. Again, with an estimated 1,232 vehicles entering service per year, the cost could be up to £8,624 per year. The use of this function is optional for enforcement officers until around 2034 (15 years after newly registered vehicles are expected to have a new generation tachograph fitted). There will be costs to enforcement agencies as a result of this proposal. The Joint Research Centre (JRC) Report on Short Range Communications gives costs for the receiver units of €3,000 to €5,000 each and suggests Dedicated Short Range Communications (DSRC) as the appropriate technology.

### **Benefits**

The benefits from this technology are likely to be zero until the facility is used by enforcement officers. However, from the date of use there are likely to be benefits resulting from enhanced and more effective enforcement. This is due to a time saving as compliant vehicles would not need to be checked. This cannot be quantified at the NI level but the Commission's Impact Assessment estimated this to be a €17m saving across Europe.

Harmonised interface proposed to allow the use of Intelligent Transport Systems (ITS) with the Tachograph

### **Compliance Costs**

The cost of the ITS interface is estimated at £7 per tachograph, based on the Commission's impact assessment. With an estimated 45,296 vehicles entering service per year the cost could be up to £8,624.

## Benefits

The use of ITS could provide benefits for operators' fleet management systems, although it has not been possible to quantify this.

Administrative Costs/Cost to Government: Given DVA already make annual visits to Approved Tachograph Centres there will be no additional costs for this. However, to ensure compliance with Article 24 DVA will include within their audit check of each centre a re-calibration of a previously calibrated vehicle by an approved technician, observed by the DVA Auditor.

The observed re-calibration by an approved technician of a previously calibrated vehicle will take one additional hour per centre per annum for the DVA HPTO who conducts these audit checks. This will add an additional cost of 27 hours for an HPTO per annum to the Approved Tachograph Centre Scheme costs, based on the 27 centres currently approved. This represents an additional cost of £500 per annum.

## Summary of Costs and Benefits

The table below summarises the costs and benefits of implementing the regulations which are estimated using the assumptions above.

<b>Cost</b>	<b>£ per annum</b>
<b>Connection to a GNSS device</b>	<b>£8,624</b>
<b>Remote (wireless) communications function</b>	<b>£8,624</b>
<b>Intelligent Transport Systems (ITS)</b>	<b>£8,624</b>
<b>Admin/ Cost to Govt</b>	<b>£500</b>
<b>Total Cost</b>	<b>£26,400</b>
<b>Benefits</b>	<b>£ per annum</b>
<b>Time Saving connected to GNSS</b>	<b>£12,800 - £100,000</b>

To show the impact of the policy over a reasonable period of time, the costs and benefits have been assessed over 10 years using a 3.5% discount rate to estimate the net present value (NPV).

This assumes the costs and benefits of the new tachographs accrue from 2019 but that the admin cost accrues from 2015.

The NPV over ten years is estimated to be approximately £146,000 i.e. this represents a net benefit.

See **Appendix A** for more detailed figures and the NPV calculation.

### **Small and Micro Business Assessment**

The proposal will apply to small and micro businesses. However the annual costs to businesses are negligible as the costs of each of these devices is estimated at £7 each. If all three technologies were installed on new vehicles entering NI, this would be a total annual cost of £25,872. However given this will provide for better enforcement and cut down on any potential fraud. Furthermore, there is a time saving for these firms which is greater than the cost. Therefore, we believe that the benefits will outweigh the costs.

The new Regulation also extends exemptions and derogations from drivers' hours rules. This will be beneficial as it is deregulatory and imposes no costs, transitional or otherwise.

In a paper from the European Commission on the Regulatory Fitness and Performance Programme (REFIT), it stated that the new regulation on tachographs reduces administrative burden and improves enforcement through the introduction of "digital tachographs" linked to satellite navigation systems and control authorities. To accommodate the specific situation of craftsmen, vehicles of less than 7.5 tons driving within a limited range of 100 km from the craftsmen's base of activity were taken out of the scope of the social and tachograph rules. These proposals should bring substantial cost savings to SMEs: the legislation on the digital tachograph would entail a cost reduction of 20% or 415 million EUR each year in total.

The Department does not seek to gold plate any requirements and through DVA, will help to minimise the costs of implementing the EU Regulation operationally.

### **Wider Impacts**

An equality screening exercise has been carried out and no equality implications have been identified. A rural impact assessment has also been undertaken and no rural impacts have been

found. There are also no human rights, environmental or health issues involved in relation to this proposed measure and it will have no impact on development, sustainable or otherwise.

### **Preferred Option and Implementation**

The preferred Option of implementing the new Regulation will be taken forward through an amending Statutory Instrument. There are however some provisions of the new Regulation which took effect from 2 March 2015 and some DVA practices have changed as a result.

The intention is to communicate the change to the industry through DVA as they are the enforcement body which will apply these changes on an operational level.

This NI legislation is transposing EU Regulatory requirements and therefore the Department has no choice but to implement them. Therefore it is not considered appropriate or necessary to include within the regulations either a sunset or a periodic review clause.

## Appendix A – NPV Calculations

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
OGV Value of Time	15.17	15.47	15.78	16.08	16.38	16.69	17.01	17.33	17.65	17.99	18.33
OGV VOT Opt 1	9.56	9.75	9.94	10.13	10.32	10.52	10.72	10.92	11.12	11.33	11.55
PSV Value of Time	15.50	15.80	16.12	16.42	16.74	17.05	17.38	17.70	18.03	18.38	18.73
PSV VOT Opt 1	9.77	9.96	10.15	10.35	10.54	10.74	10.95	11.15	11.36	11.58	11.80
No of new OGVs	0	0	0	0	936	936	936	936	936	936	936
Total OGV	0	0	0	0	936	1872	2808	3744	4680	5616	6552
OGV Ben	0	0	0	0	9661	19688	30088	40868	52049	63647	75679
No of New PSVs	0	0	0	0	296	296	296	296	296	296	296
Total PSVs	0	0	0	0	296	592	888	1184	1480	1776	2072
PSV ben	0	0	0	0	3121	6361	9721	13203	16816	20563	24450
Total Ben	0	0	0	0	12782	26048	39808	54072	68865	84210	100129
Compliance Cost	0	0	0	0	25872	25872	25872	25872	25872	25872	25872
Admin/Cost to Govt	500	500	500	500	500	500	500	500	500	500	500
Total Cost	500	500	500	500	26372	26372	26372	26372	26372	26372	26372
Net ben	-500	-500	-500	-500	-13590	-324	13436	27700	42493	57838	73757
Discount Rate	1	0.966184	0.933511	0.901943	0.871442	0.841973167	0.813500644	0.785991	0.759412	0.733731	0.708919
Net Pres Cost	500	483	467	451	22982	22205	21454	20728	20027	19350	18696
Net Pres Ben	0	0	0	0	11139	21932	32384	42500	52297	61787	70984
Annual NPV	-500	-483	-467	-451	-11843	-273	10931	21772	32269	42437	52288
Cumulative NPV	-500	-983	-1450	-1901	-13744	-14017	-3086	18686	50955	93392	145680
Net Present Value	<b>£145,680</b>										

See table below for assumptions

## Assumptions

<b>Year</b>	10 Year profile – as is standard for policies such as this
<b>OGV Value of Time (VOT)</b>	As given in Transport Appraisal Guidance for drivers of OGVs (£/hour) over the 10 years
<b>OGV VOT Opt 1</b>	Benefit is 37.8 minutes per driver year. This value is the above value of time reduced to £/37.8mins
<b>PSV Value of Time</b>	As given in Transport Appraisal Guidance for PSV drivers (£/hour) over the ten years
<b>PSV VOT Opt 1</b>	Benefit is 37.8 minutes per driver year. This value is the above value of time reduced to £/37.8mins
<b>No of new OGVs</b>	936 new OGVs per annum based on records
<b>OGV Ben</b>	Total OGVs in any given year multiplied by the OGV VOT
<b>No of New PSVs</b>	296 new PSVs per annum
<b>PSV ben</b>	Total PSVs in any given year multiplied by the PSV VOT
<b>Total Benefits</b>	OGV ben + PSV ben
<b>Compliance Cost</b>	£21 x total number of new vehicles (£21 is estimated given £7 for each of the 3 new pieces of technology)
<b>Admin/Cost to Govt</b>	27 hours for an HPTO per annum as estimated by DVA
<b>Total Costs</b>	Compliance cost + admin cost
<b>Net ben</b>	Total Benefits – Total Costs
<b>Discount Rate</b>	3.5% discount rate as is standard for this type of policy
<b>Net Present Cost</b>	Total costs discounted to 2015
<b>Net Present Benefit</b>	Total benefits discounted to 2015
<b>Annual Net Present Value (NPV)</b>	Net Present Benefit – Net Present Cost
<b>Cumulative NPV</b>	Cumulative Annual NPV
<b>Net Present Value</b>	Total NPV over 10 years