APPLICATION OF 'RES IPSA LOQUITUR' IN AIRCRAFT ACCIDENTS

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1. INTRODUCTION

The world, with every passing day, is seeking for faster modes of communication, transport being one of the primary modes. With speedy vehicles, accidents have increased by many folds, so has the Principle of Vicarious Liability to provide sufficient remuneration to the ones who suffer from these accidents. But, with development of any new mode of transport, in this case, aviation industry, there is an imperative need in limiting such compensation, which gave rise to Contributory Negligence and other defences.[1]

However, certain accidents specially the aviation accidents, are one such in which the passengers on the aircraft, who are injured or dead are in no position, to mention specifically the cause of the aviation accident. Alternatively, even if the passenger alleges specific allegations of negligence, due to the magnitude of such aviation accidents, mostly all the tangible pieces of evidence get destroyed, leaving the passenger or his representative in a disadvantageous position to prove negligence on the part of the pilot, carrier, etc.

In such circumstances, Res Ipsa Loquitur (Hereafter referred to as "The Doctrine") assesses liability, even when the specific or clear evidence is lacking, understanding the cause of the accident. It is a legal rule, by which Plaintiff does not have the burden of proof, therefore need not prove or address specific negligence, when he can show that such

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[1] Mark F. Grady, Res Ipsa Loquitor and Compliance Error , 142 U. Pa. L. Rev. 887 (1994),

accident can only occur due to the defendant's negligence. It not only establishes a prima facie case for the plaintiff but also brings an issue, for the defendant to meet with substantial evidence. Furthermore, it provides reasonable evidence, which if not outweighed by the evidence provided by the defendant, there shall be an inference of culpability on the part of the defendant[2] . Res Ipsa Loquitor, as it is Latin name suggest "The thing that speaks for itself" and is applicable only after it meets certain conditions, which are as follows[3] : (a) The accident was such that, it does not occur without the presence of negligence on the part of the one who was in control, in the ordinary course of events. (b) The person, was in exclusive control of the aircraft, against whom this Doctrine is to be invoked (c) The plaintiff or the one invoking such Doctrine is in no position to know the cause of the accident. (d)The person, against whom this is doctrine is sought, must possess the information, knowledge concerning the cause of the accident, or be in a better position to know the same, or obtain the same. For the first time, this Doctrine was made famous for the English case of *Byrne v. Boadle*[4]

For the smooth sailing of the aircraft, there are different departments that work for different components of it. The accident if it occurs, it cannot be presumed to have been caused by the Pilot because he was flying at that point. There could be defects in the structure of the aircraft, and there could also be the negligence of the independent service persons and repairer, who are supposed to be doing the maintenances of the aircraft. Which shows, there is an enormous scope of human error and is difficult for the plaintiff to specify. Further, the higher proportion of accidents are results of human error[5] and invoking Act of God for causes like that of air turbulence or storm, is ignoring liability in the era of advanced technology of detection and tracking. Similarly, accidents caused due to presence of out-dated technology or new addition of it

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[2] Charles F. O'Connor, Res Ipsa in the Air, 22 Ind. L.J. 221 (1947),

[3] ibid

[4] Byrne v. Boadle 2 H. & C. 722, 159 Eng. Rep. 299 (Exch. 1863),

[5] Harold E. Mckee, Aviation Law--Problems in Litigation Arising from Aircraft Disasters,37 NDLR (1961),

causing an accident, would not be in the knowledge of the passenger, but the defendant would be at the better place to explain the reasons and the cause of the accident.

The major aviation accidents, resulted in killing the pilot and the passengers, and destroy the tangible evidence of what was the source of the accident. Such type of accident becomes a roadblock to investigation and further litigation. Further, as mentioned above, the passenger, if he survives or the heirs of the same, is in a disadvantageous position to objectify any specific reason to be the cause. Moreover, the Doctrine of Res Ipsa Loquitur comes to curb such lacunas. Simultaneously, the usage of this Doctrine was limited, where certain negligence's were not brought under the ambit and was considered an Act of God, due to the poor development of the aviation industry, decades back.

Speaking, almost after a century of the promulgation of the first convention dealing with the liability of Carrier[6], Aviation industry has progressed not just in business but has improved the technology to reduce accidents. So, has the tertiary fields developed, which play a significant role in the smooth flying of an aircraft, one of them being the detection of air turbulence, weather, etc. The use of Res Ipsa Loquitur was restricted with cases of accidents due to turbulences[7] . In case of *Herndon v. Gregory*[8], the court had held that "risks in this mode of travel which is of a higher hazard than travel on land or water. Not ATC only is the laws of gravitation being defied, but a high rate of speed is attained, and peril from the elements is great ". Therefore credit to the negligence was not given, and most of such causes like a storm, fog, etc. were considered as Act of God.

Tracing the jurisprudential development of the Doctrine, in 1809 Lord Mansfiled had held that the "burden of proof lies on the owner of

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[6] Convention for the unification of specific rules relating to international carriage by air, signed at Warsaw on 12th October 1929,

[7] Frank D. Cimino, Air Turbulence Liability,64 JALC (1999),

[8] Herndon v. Gregory, 81 S.W.2d 849, 852 (Ark. 1935)

the Coach"[9], that he had taken the necessary actions to avoid any accident. Thereon, this Doctrine is used in all other modes of transport. The doctrine of Res Ipsa Loquitur has a different effect, in various jurisdictions, with respect to the Burden of Proof. Some states believe that the inference itself acts as that of evidence. Whereas some states believe that if such inference preponderates towards the plaintiff's claims, also all other evidence has been considered, then such inference shall provide judgement in favour of the plaintiff[10] . In other words, the applicability of the Doctrine is in an ambiguous situation, as some states shift the burden of proof on the defendant, on the conditions of the res ipsa loquitur being fulfilled, whereas some state practise is that, if the defendant cannot outweigh the presumption, with any such substantial evidence, the verdict shall go in favour of the plaintiff. This Doctrine is established, as there is a lack of specific proof of facts and omission, as to the cause of the accidents. However, if some plaintiff alleges any cause, which is an act or omission result of negligence, some states have not applied the Doctrine of Res Ipsa Loquitur on the grounds of specifying such negligence. On the other hand, some states do not follow such practise and addresses such doctrine as a lack of tangible evidence and not lack allegations. This shows the disparity in the state practises, with reference to the effect of such Doctrine, leading to different treatment in different cases, in different jurisdictions.

However, with the advancement in the technology detection, and it is the significant role played, also the importance of aviation in the lives of people and economy, it becomes imperative to hold individual departments or people liable, due to lack of information, or omission on their part. The number of aviation accidents that take place due to such weather or air turbulence is not a handful that it can be hushed for ages. Similarly, employing such Doctrine for aviation accidents due to air turbulence, will not only put the one who provided the information of the weather, or in other words the pre-flight weather briefing, but, also Air Traffic Controller's act and omission shall be under consideration, for the

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[9] Supra Note 2

[10] Supra Note 4

role they play in cases of navigation during air turbulences. In the case of *Haasman v. Pacific Alaska Air*[11] Express the court had held that "Even when no one knows anything about how the plane crash occurred-maybe the aircraft disappeared without a trace-courts infer that someone's negligence probably caused the accident."

This would bring forward a different set of legal and factual issues. Like, what shall be the effect of this Doctrine, if the pre-flight weather was all clear and later air turbulence was formed and caused air accidents. If the Doctrine is applicable, who shall be liable and how shall the 'control of the aircraft during the accident' be interpreted. The effects of such Doctrine would be dependent on the facts of the case until there are any specific guidelines promulgated.

Apart from air turbulence, aircraft meet with accidents due to various reasons. Some of which may not be apparent. Technology, which was the reason behind the inventing and later making it in any industry, could also be the reason for its crash. Some accidents have occurred because an aircraft was not well equipped with the latest technology, and the passenger met with an injury. Similarly, in case of Meil v Piper Aircraft Corp[12]. the plaintiff had met with a severe injury, including gross burns, because the seat belt buckle did not open when the plane crashed, and he was suspended upside down. On investigation, it was found that the aircraft used a different kind of seat belt. The court had found it to be a faulty design of the aircraft. Furthermore, in this case, Res Ipsa Loquitur was considered. Nevertheless, the problem sustains as to, whether lack of technology or addition of any new condition causing 'defective design or construction' be considered as negligence and Doctrine of Res Ipsa Loquitur be applicable in such cases.

This paper examines the hypothesis "*With the advancement in the development of aircraft, the aircraft is far safer, than it was, which makes the more persuasive case for application of Res Ipsa Loquitur in accidents. The causes which were considered unavoidable years back is avoidable with the help of the development of science. Therefore, such*

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[11] Haasman v. Pacific Alaska Air Express, 100 F. Supp. 1, 2 (D. Alaska 1951),

[12] Meil v. Piper Aircraft Corp., 658 F.2d 787, 788 (10th Cir. 1981).

accidents cannot occur if there is no negligence on the part of someone in control of the aircraft. Nevertheless, there is a non-uniform practice of the Doctrine, all throughout".

This paper studies accident only with reference to commercial air crafts. As far as the question pertaining to jurisdiction is concerned, it has not been limited to any specific region and shall be studied from the international perspective. The second and the third part of the paper does not analyse the scientific development, but analyses the actions of the stakeholders who are in control of such development.

The Researcher attempted to study this topic by employing the doctrinal approach. The first part, using critical tool compared to the practice followed in different jurisdictions, with the help of cases, having similar facts from different jurisdictions. In the second part, the researcher analysed the different kind of turbulences and the actions of the stakeholders in the turbulences. Moreover, the third part employs a critical tool to analyse the actions of different stakeholder's negligence critically and furthermore; the role played by the state. The primary data relied on is the precedents from different jurisdictions. The secondary data relied on are articles from various scholars of international aviation law, and other inter-related disciplines as well as articles from various newspapers.

2. PROCEDURAL EFFECT OF DOCTRINE OF RES IPSA LOQUITOR

Res Ipsa Loquitur has been referred to as "Strict Liability in disguise" by some scholars[13]. However, in practice, it is much different and primarily dependent on circumstantial evidence to prove negligence. The procedural application of the doctrine Res Ipsa Loquitur has a different effect in different Jurisdictions. To apply this Doctrine, generally, three essential points are to be shown, which are as follows :

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[13] Mark F. Grady, Res Ipsa Loquitor and Compliance Error , 142 U. Pa. L. Rev. 887 (1994)

a. The occurrence of the accident generally does not happen, in the absence of any negligence.

b. The defendant was in exclusive control of the Aircraft when the accident had taken place; furthermore, the defendant also had the control of inspection of the aircraft.

c. There was no contributory negligence on the part of the plaintiff; that is, there is no intentional interference of the plaintiff at the time of the injury.

The clause for contributory negligence cannot be treated as voluntary risk assumed by the plaintiff, just because he chose to travel by aircraft, this has been stated by the courts, from the inception of aircraft accident litigations. Although one scholar had stated the contrary "An aeroplane soaring into the wild blue yonder is subject to the 'perils of the air' even as a vessel embarking upon an ocean voyage is subject to the 'perils of the sea". However, there are four major issues, with reference to the practice of the Doctrine, in different jurisdictions, which are as follows :

2.1 Additional Criteria

Res Ipsa Loquitur, being a rule of evidence, is a fundamental principle of common sense, where it is judged on the basis of human experience and knowledge, by balancing probabilities.

However, some Jurisdictions have added other conditions, which are to be met, in order to invoke the Doctrine, which is the knowledge of the cause, what could have been the reason behind the accident, being conveniently accessible to the defendant that to the Plaintiff[14] In cases regarding the intricate technology, it is presumed that the defendant would be in the better position to explain the cause of the accident, for it is an upper hand with regard to the knowledge of the technology or the scientific development. This Doctrine is a rule of evidence, which is applicable when the instrument, in this case, the aircraft is in exclusive

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[14] Harold E. Mckee, Aviation Law--Problems in Litigation Arising from Aircraft Disasters, 37 Notre Dame L. Rev. 194 (1961). Available at: http://scholarship.law.nd.edu/ndlr/vol37/iss2/6

control of the defendant, and it can it be presumed that such accidents do not occur without negligence on the part of the defendant[15].

Nevertheless, it cannot be consistent for all the cases. This creates a hindrance, because the plaintiff is not aware of what knowledge is with the defendant, and in what circumstance, that could be readily procured. It creates a disparity in the application of the Doctrine. In some jurisdictions, where meeting the first criteria is enough, there in other jurisdiction, additional criteria's are asked for, resulting in some cases, where the plaintiff is denied of it is the good case, due to burden of additional grounds, where another plaintiff is at the mercy of showing only one criterion. The founding argument of this Doctrine is that the defendant being in the exclusive control of the aircraft would be in a better position, as compared to the plaintiff to have the knowledge of the cause of the accidents, or can procure the same. Nevertheless, that is not definite that the defendant will have the knowledge. Therefore the plaintiff should not be denied from invoking this doctrine on additional elements. Some scholars have arguments in favour of it, stating, in spite of some courts rejected applying the doctrine, on the ground that the plaintiff knows as much as the defendant does. However, there have been occurrences of the mysterious loss of aircraft, about which neither the defendant has any information, nor in a position to procure the same[16].

The ambiguity has about the presence of superior knowledge of the defendant has been resolved in the case of *Thomas v. American Airways*[17]. The court had stated, the doctrine of res ipsa is partly founded on the principle that the defendant has the knowledge superior to the plaintiff about the cause of the accident, but not the fact he at all does possess the knowledge or not.

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[15] Smith v. Pennsylvania Central Airline Corp. (D.C. D.C. 1948) 76 F. Supp. 940

[16] Prosser, Res Ipsa Loquitur, A Reply to Professor Carpenter, 10 SOUTHS:EN CALIPCEHIA LAW BEVIEW, 459, 463 (193 7), and cases cited therein.

[17] Thomas v. American Airways, inc., (1935) U.S.Av.Rep. 102 (S.D.Cal. 1935).

In the case of *Haasman v. Pacific Alaska Air Express*[18], the court had dwelt with a similar issue and had stated, even if the aircraft goes missing, without any trace on a normal weather day, the doctrine is to be applied. As such accidents cannot happen without someone's negligence, irrespective who has superior knowledge.

2.2 Inference of Negligence and Presumption of Negligence

Apart from a non-uniform set of criteria's to be met, there is also a diverse procedural effect of the Doctrine, which is the second contention in this Chapter. Some Jurisdictions, the doctrine results in the inference of negligence, whereas, the presumption of negligence is practised in other courts. In *Hogan v. Manhattan Ry. Co*[19]. the court had held that 'Presumption' and 'inference' is used indiscriminately.

In some jurisdictions, invoking the doctrine results in an inference of negligence. This inference does not influence the court to order in favour of the Plaintiff if there is no evidence brought forward by the defendant. The defendant can choose to provide no explanation, and his silence will not be treated against him. Basis of the circumstantial evidence provided by the plaintiff, supporting his case is referred to indicate the most 'plausible explanation'[20], that the accident has occurred due to defendant's negligence. In the case of *Griffin v.New York Central*[21] the court elucidated on the Doctrine of Res Ipsa Loquitur, mentioning that, it is a matter of inference, rather than presumption, where the court is to infer based on the circumstances, rather than drawing from it.

Whereas, other Jurisdictions apply "Presumption of Negligence", where the court shall give the order in favour of the Plaintiff, in the absence of any evidence brought forward by the defendant. In the case of *Lobel v. American Airlines*[22], the Circuit Judge had explained the stance

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[18] Haasman v. Pacific Alaska Air Express, 100 F. Supp. 1, 2 (D. Alaska 1951)

[19] Hogan v. Manhattan Ry. Co ,43 N.E. 403 (N.Y. 1896),

[20] Frank D. Cimino, Air Turbulence Liability, 64 J. Air L. & Com. 1163 (1999)

[21] Griffin v. New York Central, 98 N.Y.S.2d 346 (N.Y. App. Div. 1950

[22] Lobel v. American Airlines, 205 F.2d 927 (2d Cir. 1953)

of Presumption of Negligence in such cases. He had mentioned that 'Presumption takes the place of evidence'. When the instrument, that is the aircraft was in exclusive control of the defendant, it is presumed that such an accident is a result of any negligence of the defendant. In the above-mentioned case, the Hon'ble Judge had also cited the landmark judgement of *Judd v. Sams*[23] which mentions Res Ipsa Loquitur as a procedural rule of evidence. Ironically, there is no uniformity with reference to the rebuttal, that is needed from the defendant in order to contradict the presumption. Some courts, on fulfilment of showing due care was taken, gives the order in favour of the defendant, whereas, other jurisdictions weigh the evidence[24].

The results in different practise being followed by different Jurisdictions. So, the doctrine applied to an aircraft accident in Courts at New york, shall not have a similar result, as it is applied in a court at Ohio. In *Foltis Inc. v. City of New York* [25]The Hon'ble Judge even elaborated that, the confusion with regard to 'inference' and 'presumption' shall continue, but that does not mean that the Jury shall leave the question of inference hanging.

2.3 Ambiguous Practise with the Burden of Proof

The primary purpose of this Doctrine is to shift the burden of proof on the defendant, as the plaintiff is in the disadvantageous position to point or mention the specific negligence to be the cause of the accidents, but as per scholar Fran Cimino[26], this is not practised in most of the jurisdictions. This was discussed in the above-mentioned case of *Griffin v. New York Central R.R.Co*.[27] , that the burden of proof, nor the explanation moves of the defendant. If the Defendant chooses to stay

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[23] Judd v. Sams ,270 App. Div. 981 (N.Y. App. Div. 1946)

[24] Howard S Coldin, The Doctrine of Res Ipsa Loquitur in Aviation Law, A thesis presented to the Department of law of Southern California (1944)

[25] Foltis, Inc., v. City of New York, 287 N.Y. 108 (N.Y. 1941)

[26] Frank D. Cimino, Air Turbulence Liability, 64 J. Air L. & Com. 1163 (1999)

[27] Griffin v. New York Central, 98 N.Y.S.2d 346 (N.Y. App. Div. 1950

silent, then the Jury is to infer from the circumstantial evidence provided by the Plaintiff. The burden lies on the Plaintiff to explain that the defendant was negligent, along with the burden of proof. The fundamental objective of the introduction of the Doctrine gets defeated with such discriminatory practises. In some jurisdictions, the Plaintiff can meet with the essential criteria to invoke the Doctrine, and the Burden of Proof moves on the defendant to show, that it is not negligent, or any such explanations. Whereas, in some cases, the burden of proof still lies with the Plaintiff. This creates an ambiguous state of practice.

Ironically, some jurisdictions follow similar criteria's, which are necessary for invoking this Doctrine, for the litigations in their courts, without recognising the doctrine of Res Ipsa Loquitur. The court, in the absence of any specific or clear evidence, decides the liability of the defendant, In doing so, the plaintiff brings forward the circumstantial evidence, from which the court the predicts whether such accidents could be the result of negligence[28]. However, the court does not recognise such practise under the scope of the Doctrine of Res Ipsa Loquitur.

Therefore, this opens a pandora's box of ambiguity and uncertainty. Additional criteria's could be included, so can specific criteria be amended. Courts of such Jurisdictions are not under the compulsion of following the general criteria of the same, as they have not recognised the Doctrine itself.

2.4 Application of the Doctrine, with alleging specific negligence

Res Ipsa Loquitur is a rule, with which the plaintiff can avoid the burden of proving specific negligence when they can meet the essential elements for the application of the doctrine. However, the ambiguity lies, if the plaintiff contends specific acts as specific negligence, what is the application of the doctrine. The first cases facing such conflict had mentioned that on mentioning Specific Negligence, the plaintiff loses his right to rely on Res Ipsa Loquitur. This was on the ground that, if the plaintiff mentions such specific negligence, and by virtue of the Doctrine,

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[28] Mark F. Grady, Res Ipsa Loquitor and Compliance Error , 142 U. Pa. L. Rev. 887 (1994)

if such inference of negligence supports it, the order of the court is likely to be in favour of the plaintiff and the natural justice of the defendant is to be denied.

One of the leading case, where the question about the mentioning specific negligence and invoking the doctrine was in question is, *Goodheart v. American Airlines*[29]. In this case, the plaintiff had mentioned specific acts to be the acts of negligence, which included the Pilot taking a course over mountains, instead of following the regular general route. The court, in this case, had held that the doctrine could only be applied when there is no direct evidence. In mentioning any specific negligence, the plaintiff does not have the right to invoking the Doctrine.

Similar practise has been seen in the case of *Cope v. Air Associates Inc*.[30] who is an experienced parachute jumper, faced difficulty with the emergency parachute provided by the defendant. It did not open completely and did not support the fall of the passenger from the aircraft mid-air. The plaintiff, therefore, faced gross injury and had alleged that the injury was due to the defective parachute, provided and packed by the defendant. The court held that it was a first case, where the Doctrine of Res Ipsa Loquitur could have been applied, but, since the plaintiff had mentioned specific negligence's, therefore, the doctrine of res ipsa cannot be invoked. Analysing two cases of two different jurisdiction, the varied procedural effect of the doctrine can be seen.

In case of *Johnson v. Western Air Express*[31], where the plaintiff sustained an injury and her husband died, due to an aircraft accident, at California. The plaintiff filed the case in the Californian Court, pleading for invoking of Doctrine of Res Ipsa Loquitur. The Jury in the trial had rejected the application of such Doctrine as the plaintiff has alleged specific acts of the crew as acts of negligence. The Appellate court on dealing with the contention of the appellant, that rejection of application

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[29] Goodheart v. American Airlines, 1 N.Y.S.2d 288 (N.Y. App. Div. 1937)

[30] Cope v. Air Associates Inc, 28 III Ap. 1940

[31] Johnson v. Western Air Express, [Civ. No. 12369. Second Dist., Div. One. June 30, 1941.]

of such Doctrine is erroneous, upheld the decision of the Jury. It had mentioned that the very fact that, the plaintiff had alleged individual acts as acts of negligence, or 'Specific Negligence', it implies that that plaintiff is not relying on the Doctrine of Res Ipsa Loquitur. Therefore, the Doctrine of Res Ipsa Loquitur can be applied, only if the plaintiff cannot specifically mention the act of negligence.

Whereas, the contrary was held in the case from the Jurisdiction of New York, *Lobel v. American Airlines*[32], the plaintiff had alleged individual acts as the cause of the accident, which includes specific negligence in the maintenance and operation of the plane. The plaintiff relied on the Doctrine as well during the trial. The Appellate court, in this case, dwelt with the issue, whether there was a denial of fairness in the trial. The Court held that there was no erroneous practice seen, and fairness of the trial was not denied. In spite of being two jurisdictions of the same country, yet, there is such disperse practise. Therefore, such disparity is much more extensive, when compared from Jurisdiction of one Country to another, leading to disparity in the procedural effect of the Doctrine.

3. RES IPSA LOQUITUR AND AIR TURBULENCE

An aircraft is one of the most exceptional developments of Science and Technology and is also subjected to external factors, apart from the one who is in control of it, while taking off, mid-air, or landing. Such factors have also been responsible for accidents leading to an enormous number of lives being lost, over the years. One such factor is "Air turbulence" which caused several casualties and injuries, since, the inception of the aircraft development.

Over the years, air turbulence has been considered as an extended part of travelling in an aircraft[33], and any accident caused by it is a result

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[32] Lobel v. American Airlines, 205 F.2d 927 (2d Cir. 1953)

[33] Marc S. Moller et al., Handling the Turbulence Case, 64 J. Air L. & Com. 1057 (1999)

of Act of God[34].Nevertheless, to curb accidents, several measures have also developed, in the field of Meteorological set up, better Radar facility, for detection and diagnosis of the air turbulences present or anticipated to happen, by the movement of air, cloud, etc. This development is primarily to ease the travel of those travelling, as well as reduce the liability of the carrier if found guilty. Interestingly, the number of injuries due to air turbulence from 1980 to 2008 in the USA resulting from 234 accident is 298 serious injuries Turbulence[35], whereas, the statistics provided by the Federal Aviation Administration, states there have been 340 injuries[36] , in the time span of 2008 to 2018, due to air turbulence. Therefore, it can be inferred that injuries have not reduced, instead has increased, in spite of having better and much more advanced technological facilities.

This brings a conflicting position if the detection is made, and there is reliable information regarding any turbulence happening or is likely to happen, and if the flight takes the same path, where it meets with the turbulence, which causes an accident, will it still be referred as an Act of God. Or, will the ones in control of the aircraft be held liable?

In several jurisdictions, air turbulence causing accident cases have contended, where the court has held the crew liable for landing through a thunderstorm, even after having prior knowledge[37], not asking for weather information, in spite of seeing the deteriorating condition of the weather[38]. Such accidents generally would not have occurred, had there been no negligence on the part of the crew. Therefore, the Doctrine of Res Ipsa Loquitur becomes an important tool for such accidents. Ironically, the jurisprudential development suggests that courts have not

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[34] Frank D. Cimino, Air Turbulence Liability, 64 J. Air L. & Com. 1163 (1999)

[35] Staying Safe, Federation of Aviation Administration (11 August 2017)<https://www.faa.gov/travelers/fly_safe/turbulence/> accessed 30 March 2020

[36] Fact Sheet – Turbulence, Federation of Aviation Administration (4 February) <https://www.faa.gov/news/fact_sheets/news_story.cfm?Newsid=20074> accessed 30 March 2020

[37] re Crash At Dallas Fort Worth Airport

[38] Kullberg v. United States, 271 F. Supp. 788 (W.D. Pa. 1964).

applied the doctrine, in any accident case caused by air turbulence, even though the court has allowed the doctrine in other aircraft accidents.

The landmark case, which had discussed the applicability of the Doctrine of Res Ipsa Loquitur, in detail was *Cudney v. Midcontinent*[39]. In this case, there was sudden turbulence, even though the crew had put the seat belt signal on, and the plaintiff had not put on the seat belt, was severely injured. The court on dealing with an issue about the application of the Doctrine stated that such turbulences are the collective experience of 'mankind in commercial aircrafts' and not only for the negligence of the crew or the one handling the plane. Furthermore, the Doctrine was not applied.

A similar instance was followed in the case of *Kohler v. Aspen*[40]. In this case, the court had acknowledged that the doctrine of res ipsa loquitur is applied in other aircraft accident cases, but have denied the application in case of aircraft accidents caused by air turbulence. The effect of external factor- "Nature" apart from the one who is in control of the plane, could be the reason for such accidents. This was the reason, for which the Doctrine was denied the application.

With reference to negligence, the courts have denied the application of the doctrine in aircraft accident cases, because, to them, accidents due to air turbulences are not exclusively caused by negligence, but, there are also factors like a natural calamity. Therefore, the first criteria for invoking the Doctrine is not met *Kelly v. American Airlines*[41],in such cases, and therefore, the cases have denied the application of the Doctrine. A similar view was taken in case of *Sanchez v. American Airlines*[42].

Primarily, the issue in hand could be resolved, if the litigators and the court distinguish between the different kinds of turbulences, and

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[39] Cudney v. Midcontinent Airlines, Inc., 363 Mo. 922 (Mo. 1953)

[40] Kohler v. Aspen , [Civ. No. 23651. Court of Appeals of California, Third Appellate District. June 4, 1985.]

[41] Kelly v. American Airlines, Inc. 508 F.2d1379

[42] Sanchez v. American Airlines, 106 Misc. 2d 1010 (N.Y. Misc. 1981)

bring in different criteria for the accident cases, resulting of the different kinds of turbulences. Because, the turbulence which is caused by the presence of rain or precipitation in the air, that can be easily detected or anticipated, cannot be brought under the ambit, as clear air turbulences, where detection is challenging.

To under the legal scope of such accidents, we need to see the scientific background of the same. There is no strict definition of air turbulence. The Federal Aviation Administration defines air turbulence as:" Turbulence is air movement that generally cannot be seen and often occurs unexpectedly. It can be created by many different conditions, including atmospheric pressure, jet streams, the air around mountains, cold or warm weather fronts or thunderstorms. Turbulence can even occur when the sky appears to be clear[43] "This definition does speak about clear air turbulence, which this project would speak in detail about, but it does not encompass wake turbulences which is caused by the wings of the aircraft. Therefore, any such accidents caused by turbulences, other than those mentioned in the definition shall be not given equal scope, can be presumed. Therefore, firstly, the definition of air turbulence needs to be more inclusive and specific.

Presence of several elements in the air and their movement caused turbulences. Three broad classifications can be made of air turbulences, based on the element that is causing such turbulence.

3.1 Weather-based Turbulence

Firstly, weather-based turbulence, which is referred to as air turbulence, interchangeably. This is caused by the presence of storms, thunderstorm, clouds, rains, and sometimes even snow. This is the condition of unsettled weather.[44] The traditional radar technology that is used, where the radio waves are sent across, and on the basis of which it hits, the meteorological department detect the presence of what kind of

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[43] Marc S. Moller et al., Handling the Turbulence Case, 64 J. Air L. & Com. 1057 (1999)

[44] Ron Cowen, Clearing the Air about Turbulence, Science news online, June 27, 1998, 408

element that is present in the air. Therefore, such radio waves can only decipher bigger particles or elements and detect the presence of rain, storm, etc.

Such technology is being used for ages, and, is ideal for detecting any weather-related turbulences. It is beneficial, where the pilot can be informed about the detection and the anticipation by the meteorological department as pre-flight briefing, where he can either avoid such route or path, where the weather is detected to be unsettled, or he can avoid flying, till the conditions permit, him to do so. If such detection has happened, while the aircraft is already flying, it would be the duty of the Air Trafic Control (Hereafter referred as ATC) to not only inform the pilot but also provide the best possible route to avoid such storms. Which gives, the responsibility on the pilot to inform his passengers to put on the seatbelt, as well as avoid the storm, by deviating from such route

In the case of *National Airlines v. Stiles*[45] the court had found the meteorology department to be inefficient and negligent in providing the information about the turbulence to the pilot, for which the accident had occurred. The detection and the information to the pilot could have saved an accident.

It can be drawn from this; such accidents can be avoided. Moreover, with the presence of detection mechanism and the information about the weather based turbulence, if the accident has occurred, the doctrine should be applied, as the first criteria of the doctrine that is being negligent is fulfilled. In these cases, the seat-belt rule is followed, where if the seat belt sign is turned on, it is assumed that the authorities have done their part in taking due care, and if not turned on, that shall be considered as negligence.

Application of the Doctrine of Res Ipsa Loquitur, should be practised, in cases like weather-based turbulence, because with the presence of information, with the pilot and not acted upon substantially, is negligence. Similarly, if the ATC, not providing information with the pilot, or not giving the necessary route to avoid such turbulences, is also

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[45] National Airlines, Inc. V. Stiles, 268 F.2d 400 (5th Cir. 1959)

negligence on the part of the ATC. There are individual bodies working in consonance, can avoid turbulence and negligence on the part of any, shall apply Res Ipsa Loquitur.

The essential criteria that the litigator is to see is that :

1. Whether the Meteorological Department had provided the information, in a reasonable time, and whether the pilot has acted on it, before taking off or in midair
2. During mid-air, if any turbulence has been detected, where the information is with the ATC, whether it has provided the pilot with sufficient help to avoid the same.
3. Whether the pilot on receiving the information, apart from deviating the flight, in case of strong turbulence, had informed the passengers by putting the seat belt sign-on

If any of the essential criteria are in contrary, the action of such respective body is to be considered negligence. Furthermore, the Doctrine of Res Ipsa Loquitur is to be applied by analysing the circumstantial evidence brought forward.

In cases of Weather Based turbulences, the seat belt principle is of utmost significance. Even for Clear air turbulences, in the case of *Ness V. West Coast Airlines*[46], the court had held that, even though the clear air turbulence is not detectable, but it was foreseeable considering the aircraft was flying in lower altitude near the mountain range. Therefore, the pilot should have given the warning and avoided injury by putting on the seatbelt sign on.

3.2 Wake Turbulence

Another kind of turbulence which causes accidents to happen to be caused by "the movement of aeroplane wings. forcing air down under the wings and creating counter-rotating cylindrical vortices off the wing

[46] Ness v. West Coast Airlines, Inc., 410 P.2d 965 (Idaho 1965)

tips"[47]. This kind of rotating air around the wings of an aircraft is what causes the turbulences for those aircraft which are nearby it. Especially such turbulence caused by medium and big aircraft are incredibly hazardous for the smaller aircraft, for the momentum of air around the bigger aircraft is of higher velocity. This kind of turbulence is not caused by sudden movement in the fundamental particles, but the product of the air crafts itself, which is in control of the one flying and ATC, for control. Therefore, it can be foreseen and can be avoided, far more, as compared to other turbulences caused by natural factors. Here, the ATC can seek for more separation between aircraft, amend the schedule of aircraft from the same route, to avoid such turbulences. It is the responsibility of the ATC to provide the necessary information and warnings, and the pilots should act to such warnings. If accidents yet occur, it can be easily inferred that, amongst the two, the ATC or the pilot has been negligent. Therefore, the doctrine of Res Ipsa Loquitur should be applied to accidents caused by wake turbulence. Accidents from such turbulence can only happen, due to the negligence of the defendant, and only the defendant is in control of the aircraft, as no natural factor has been the external cause of the accident. Accidents occurring from such turbulences should seek for specific essential criteria, which are as follows :

1.Whether the ATC had provided the information and given the supported the aircraft to separate from one another?

2. Whether the pilot had acted upon the instruction of the ATC?

If the answer to any of the two, is in negative, it can be counted as an act of negligence on the part of the ATC or Pilot. In these cases, the responsibility of ATC is far more than that of the Pilot. In the case of Ingham v. Eastern Airlines Inc.[48] The court had found ATC liable for failing to accurately report the deteriorating weather conditions and the emerging turbulences, holding the act as that of negligence. A similar

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[47] Marc S. Moller et al., Handling the Turbulence Case, 64 J. Air L. & Com. 1057 (1999)

[48] Ingham v. Eastern Air Lines, Inc., 373 F.2d 227 (2d Cir. 1967)

view was held in the case of Hensley v. United States[49] stating that the ATC shall be liable, if it does not report the information about turbulence to the pilot, which may be apparent to ATC but not the pilot, for being in a better position to asses.

3.3 Clear air turbulence

The third kind of air turbulence is the Clear Air Turbulence. There is no strict definition of clear air turbulence, and any such turbulence where there is no cloud is referred to as clear-air turbulence. It can be explained as "a boundary of the jet stream". It is mostly found during the winter, and most prevalent near the mountain ranges, bridges, or any obstruction. As the jet stream hits the mountains or any obstruction, it is pushed up, and further falls back for being denser than the air in that latitude, and again hits the obstruction and further pushed up. This creates an oscillatory wave-like motion, And, if any aircraft moves across this oscillating jet stream, it experiences turbulence. The tradition radar detection system, which is used for weather-based turbulence, is insufficient is detecting such clear air turbulence, as there is no presence of any bigger particles, and the movement of air with no clouds cannot be detected by radio waves. Instead of using radio waves, laser system has been advocated, but, it is still in a preliminary stage. Different states have though come up with different systems, to improve the detection facility.

The Japan Aerospace Exploration Agency has developed an instrument, which can only detect clear air turbulence which is 10 miles in front of the aircraft [50], which gives only 70 seconds to the pilot, to take any action to avoid the turbulence, or reduce the injury that could be caused by turning on the seat belt sign on, and warning the passengers about the turbulence. Even NASA developed a technology using "coherent radiation is attached to the aircraft and split into two beams

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[49] United States v. Hensley, 469 U.S. 221 (1985)

[50] Kyodo, JAXA invents air turbulence detector that can reduce airplane accidents, The Japan Times, 28 May 2017, <https://www.japantimes.co.jp/news/2017/05/28/national/science-health/jaxa-invents-air-turbulence-detector-can-reduce-airplane-accidents/> accessed 30 March 2020

which are oriented at a narrow-angle to one another to form a cross pattern"[51] which could be used to detect such turbulences. There are furthermore technological developments that are taking place to detect and avoid clear air turbulence, but there is no substantial practice that is being done, to avoid liability. But, as mentioned in the above-mentioned case of *Ness V. West Coast Airlines* [52]even if it is not detectable easily, it can be avoided to a certain extent by avoiding routes near mountains ranges etc. Further, it can be foreseen; therefore, the seat belt warnings should be given. If such actions are not taken, the Doctrine of Res Ipsa can be applicable for apparent air turbulence accidents as well.

The three classified turbulences are distinct to one another, based on how it is caused, the detection mechanism, and the procedure to avoid it. Therefore, not all the accident cases caused by air turbulence shall follow similar procedures and criteria's. Also, Doctrine of Res Ipsa should be applicable, but dependent on the type of turbulence, as the essential criteria of the doctrine would depend on the actions that are taken in different kind of turbulences, to avoid it.

4. RES IPSA LOQUITOR AND TECHNOLOGICAL DEVELOPMENT

Aircraft is a product of refined development of science and technology. It is undergoing development and improvement on a daily basis. From the luxury features to the detection of weather facility, from being more fuel-efficient to having endurance, there has been progress in each and every sector, to increase the safety of the aircraft and reduce limitations like accidents. Nevertheless, where it has been made strangely safe, by various instruments and technological improvements, it increases the scope of the doctrine, as compared to unavoidable accidents. Hence, a paradox is created: where there is the safest installations, instruments,

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[51] Turbulence & Vortex Detection System, NASA Technology transfer program, <https://technology.nasa.gov/patent/LAR-TOPS-142 > accessed 30 March 2020

[52] Ness v. West Coast Airlines, Inc., 410 P.2d 965 (Idaho 1965)

technology inserted or used, there is the most persuasive case of Res Ipsa Loquitur[53]

To understand, the application of the doctrine, in accident cases due to technological failure, the second essential element needs to be analysed, which is "Exclusive Control". An aircraft, in spite of being flown by the pilot, and being monitored by ATC, is not entirely in the exclusive control of these two bodies only. Much before, an aircraft undergoes flight, and it is made over a period of time, in which it is exclusive control of individual departments or bodies

The designer prepares the design, where he is in control of the design and layout of the aircraft, the producer and the manufacturer is in control of the making of the aircraft, from the smallest of a pin to the entire gigantic vehicle, that it is. Thereafter, it is in control of the retailer, who sells it and the owner of the aircraft thereon has the control over it, subject to periodical maintenance, where it is in control of the repairer or engineer looking after it is maintenance. Therefore, an aircraft goes through various hands and departments, before it comes in control of the pilot, and ATC during the flight. It is a product of interlinking control of various bodies and departments.

The designer, the manufacturer, could have produced the safe aircraft, which was mishandled by the pilot during flying, or, it could be, the designer, the manufacturer provided the safe aircraft, which was flown by a skilled pilot, who to his best of his ability had flown, yet due to any technical failure caused during maintenance the aircraft meets with an accident. Since there is many bodies have a role to play, therefore negligence on the part of any single body, be it designer, manufacturer, contractual repairer, or pilot can result in an accident.

The landmark case of *British Airways Board v. The Boeing Co* , where an accident was met due to clear air turbulence. The Plaintiff had contended that the aircraft disintegrated due to manufacturing defect, for the defendant's negligence. The Defendant, the Boeing Corporation, in this case, had contended that it happened due to negligence of the pilot, as he had flown the aircraft at low altitude, near Mt. Fiji, where the

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[53] . Higginbotham v. Mobil Oil Corp., 545 F.2d 422, 429 (5th Cir.)

accident had occurred. Flying at such low altitude resulted in the aircraft facing jet streams of clear air turbulence, which is more durable than the aircraft is designed to endure. Moreover, the court held in favour of the defendant, as the plaintiff did not come up with any other evidence to contradict the theory of the defendant.

This shows the interdependency of control of Manufacturer, Designer, Repairer, Pilot, ATC, for the safety of the aircraft. Therefore, Doctrine of Res Ipsa is not limited to the negligent act of the Pilot but should be applied to any such body who was in control of his necessary department, in making or running of the aircraft.

4.1 Manufacture's Defect

In the case of Maynard v. Stinson[54] the plaintiff was injured by fire, as the plane had busted into flames. The plaintiff had contended negligence on the part of the manufacturer and the designer for faulty design and defected aircraft. The court was satisfied with the circumstantial evidence provided by the plaintiff and held the defendant liable for its negligence. However, the court had given the burden of proof on the plaintiff initially, which is unlike the practice of Res Ipsa Loquitur.

Similarly, in the case of Me *Coy v. Stinson Aircraft Corp*[55] the plaintiff has alleged that the accident had occurred due to faulty welding of the wings, during repairing. The plaintiff could not prove the point of negligence, and the court could not rely on the doctrine of Res Ipsa Loquitur. However, the court, in its disposition, had mentioned the maxim.

In the Canadian Jurisdiction, similar principle is followed, when there is any negligence on the part of the Manufacturer or the repairer, the person is held liable, and the Doctrine of Res Ipsa Loquitur is applied.

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[54] Maynard v. Stinson,(1940) U.S.Av.Rep. 71 (Mich.Gir.Ot., Wayne Co., (1937).

[55] Me Coy v. Stinson Aircraft Corp (1942) U.S.Av.Rep. 154 (Sup.Ct., Ontario, 1939), discussed in note, II Jour. Air 1. 186 (1940).

In case the case of *Galer v. Wings Ltd*[56] and *Nystedt v. Wings Ltd*[57]., which resulted from the same accident, the aircraft engine had loosened up from the fasting mid-air, resulting in the injury of the passengers. The Court for the cases found that the Doctrine of Res Ipsa Loquitur can be applied. The plaintiff had contended, that the aircraft was in exclusive control of the defendant and the accident such as this does not happen without any negligence. Nevertheless, both the cases of the same accident met different results. In the former case, the defendant in the explanation, when the doctrine was applied was successful to show that there was necessary care taken. Where the second case, with additional evidence, and application of the Doctrine, there was an inference of negligence. Furthermore, this inference could not be rebutted by the defendant. However, there is an overlapping line of control, in running of the aircraft.

4.2 Technological Addition:

In the process of development and increasing business, every aircraft is undergoing several technological changes. Nevertheless, specific experimental changes, that could be referred to as additional technological instruments could also be the result of aircraft accidents or injury of the passengers. In the case of *Meil v. Piper Aircraft Corporation*[58] the plaintiff had claimed that he was wearing a seatbelt when there was the air crash and the plane had overturned. He could not unbuckle the seatbelt because it was defective. He was trapped, for not being able to unbuckle and therefore faced severe injury. The rescuer had testified the same, the seatbelt did not open, even when he tried, despite him aware of this new kind of seatbelt. Furthermore, he had to cut the seatbelt strap to save the plaintiff. The second contention of the plaintiff was regarding the fibreglass hopper, which contained insecticide. The expert evidence suggested that such hopper would have remained intact

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[56] Galer v. Wings, 47 Man L.R.281 (1988)

[57] Nystedt v. Wings Ltd,(1942) 3 DLR

[58] Meil v. Piper Aircraft Corporation 658 F.2d 787 (10th Cir. 1981)

in the kind of accident, that the aircraft had undergone if it was made of stainless steel. Due to the experimental instrument, using fibreglass instead of steel, the tank had broken releasing the insecticide and chemicals which covered the plaintiff, causing nausea and breathing issues. And, the third concern was regarding the fuel header tank, which was alleged to be faulty. This case was appealed in the United States Court of Appeal, while it was in pendency the New Mexico Supreme Court had mentioned that Res Ipsa Loquitur was not applicable in this case, solely on the basis of inadequate design. On analysing this case, we can see, the court has come to the conclusion that inadequate design is not an act of negligence, even if it the cause of accidents. The court would require the plaintiff to furnish further circumstantial evidence to apply this doctrine. That is, where the scope of the doctrine is limited. Just the actions of the pilot are scrutinized for it is assumed, that the one running the instrument is in exclusive control and if no act of negligence has been committed on his part, there is no negligence in totality.

Also, another argument is brought forward in support of not holding manufacturers, repairers liable, is that the owner becomes in complete control of the aircraft, once it buys it. Therefore, if it has bought, or is using it, the liability is on the owner to ensure, the aircraft is in proper condition before flying, and with this, the manufacturer and designers can evade their liability. That is the practice. However, the negligence of the manufacturer or designer should be scrutinized. Res ipsa Loquitur should be applied in cases; there are defective aircraft. The owner of the aircraft, irrespective of fine inspection, can skip or miss defective or faulty products, which may be visible only once, it has caused any injury or accident. Inspection on the face of it is not enough to reduce accidents, where there is negligence on the part of anybody. Liability shall be able to reduce negligence.

4.3 Liability of the State

As per the international instrument requirements, an aircraft cannot fly without the airworthiness certificate with is given by the competent authority. Irrespective of such a norm from decades, there are accidents which occur due to faulty designs or manufacturing defect.

Apart from considering the negligence of the manufacturer, or the flying, the position of the state also needs to be considered with respect to its role played in certifying flights with an airworthiness certificate. The state aviation agencies like FAA, takes the crutch of the application for airworthiness certificate being misappropriated by the applicant and that the state does not have negligence in the same. However, here the question is of duty. The agency is bestowed with the duty of providing the certificate on inspection. Therefore, such inspection should be of that standard, where such misappropriation is visible. While deciding the case of a Helicopter crash, in the case of *Berkebile v. Brantley Helicopter Corp*[59] the court had held that the airworthiness certificate eligibility criteria's provided by the FAA is 'meaningless'. The nexus of Boeing with FAA with regard to getting an amended certificate is further a question, that needs to be explored. Apart from the USA, every country has ceased flying of the gigantic flight from their air space after consecutive two accidents by the same aircraft. It has been alleged that there are several changes made to the aircraft, in order to meet the competition with aircraft from Europe, and such changes have turned to be detrimental. Here, the issue arises, if the manufacturing unit is held liable for it is defects, the operator is being held negligent, why isn't the state's agency, which is directly responsible for giving the approval of flying, not being scrutinised? The doctrine of Res Ipsa Loquitur needs to be applied, for negligent actions of such bodies as well, for approving flying of such faulty aircraft.

On analysing, above mentioned case of *Meil v. Piper Aircraft Corporation*[60], there are gross faulty defects in the design of the flight, which has been mentioned by the court, even though the doctrine has not to be applied. This brings a conflicting question, can the aircraft fly with any equipment, which is not operational or defective in nature. Moreover, if any experimental equipment or technology is to be used, can that be used in a commercial flight, where the lives of civilians are at risk. One

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[59] Berkebile v. Brantly Helicopter Corp., 219 Pa. Super. 479 (Pa. Super. Ct. 1971)

[60] Meil v. Piper Aircraft Corporation, 658 F.2d 787 (10th Cir. 1981

of the most significant equipment, being the seatbelt, which is to save the passengers from any injury, is defective in nature.

To the first question, every operator has to maintain a Minimum Equipment lists, which is not less than the Master Minimum Equipment list[61], which is approved by the authorities. Furthermore, no aircraft can fly without having those equipment's as mentioned in the above-mentioned equipment list. Therefore, if any aircraft flies with defective or faulty products which are mentioned in this list, is an act of negligence on the part of the aircraft owner. This is because, if a list is prepared, it is to highlight the most essential equipment's, whose presence is of utmost importance, therefore their presence is the right quality is expected. And, a defect in such products leading to any accidents, cannot be evaded from the application of the Doctrine of Res Ipsa, only because the case is based on defective equipment's.

Federal Aviation Administration has laid down similar policies for Master Equipment List, mentioning that "the equipment installed in the aircraft should be operative at the time of the flight" suggesting, if the products are not operative, yet are mentioned on the list, it can be counted as acts of negligence.

To answer the second question, about having experimental equipment's, like using different products or materials to make any equipment, the Federal Aviation Administration provides instruction[62], that only on approval and receiving original experimental airworthiness certificate such aircraft can operate. Therefore, there is a clear distinction made between commercial and experimental flights. Moreover, if any such experimental actions taken with the equipment's would not be an act of negligence, but illegal. In these cases, there are deliberative actions taken, and the doctrine of Res Ipsa Loquitur does not suffice.

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61 Minimum Equipment Requirements for General Aviation operations Under Far Part 91, Federal Aviation Administration(28 June 1991) < https://www.faa.gov/documentlibrary/media/advisory_circular/ac_91-67.pdf> accessed 30 March 2020

62 ibid

4.4 Cost-Cutting Mechanisms

There are several steps being taken by the aircraft owners, in order to increase business, while maintaining a market of competition amongst other airlines. These steps are mostly cost-cutting mechanisms. To keep the prices of the aircraft low, several manipulations that need to be done even to run the aircraft, of which the prominent ones are like – Carrying low fuel, decreasing leg space between the seats, reducing resources for workforce overseeing the flight safety. According to a leaked internal report which was drafted by the Civil Aviation Authority, UK speaks about compromise in-licensing of the pilots[63] . Carrying low fuel has been a concern highlighted by various writers over a decade now, which has resulted in massive accidents, as well. In the most recent case, in Columbia, an entire flight, which was carrying a Brazilian Soccer team had to have an emergency landing, as the plane had run out of fuel, causing massive accident.[64] But, one of the major policies followed to cut cost, is outsourcing maintenance to repairing stations, causing sub-standard maintenance and lack of monitoring. The first time, such policy was brought in the limelight was after the crash of Valujet 592, in 1996[65] . It was claimed that such an accident is the result of ill and substandard maintenance. Now, there are several accidents, which have resulted due to poor maintenance by outsourced stations, due to cutting cost. This draws a picture, where any aircraft flying with minimum or shortage of fuel, is an act of negligence. Similarly, to reduce cost, outsourcing maintenance of aircraft to any organisation, where any poor

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[63] Gwyn, Risk of air accidents up after CAA cost-cutting, a leaked report warns, The Guardian (23 June 2017)
< https://www.theguardian.com/business/2017/jun/23/risk-of-air-accidents-in-uk-up-after-caa-cost-cutting-warns-leaked-report> accessed 30 March 2020

[64] Nicholas Casey, Doomed Jet Carrying Brazilian Team Reportedly Ran Out of Fuel,The Newyork Times(30 November 2016)<https://www.nytimes.com/2016/11/30/world/americas/plane-crash-brazil-colombia-soccer-fuel.html>accessed 30 March 2020

[65] Amy B. Wang, The FBI is still searching for a fugitive mechanic involved in a horrific 1996 Valujet crash, The Washington Post,(7 April 2018)< https://www.washingtonpost.com/news/retropolis/wp/2018/04/06/the-fbi-is-still-searching-for-a-fugitive-mechanic-involved-in-a-horrific-1996-valujet-crash/> accessed 30 March 2020

maintenance and repairing is provided, or reducing the minimum space, etc are all are acts of negligence. These each act, could be the cause of the accident and should be brought under the purview of Res Ipsa Loquitur, for which the concerned authority approving such cost-cutting policies and designs should be held liable.

5. CONCLUSION

On examination of the hypotheses, have to lead to a conclusion that, there is non-uniformity of the application of the Doctrine of Res Ipsa Loquitur. The science and technology developing the aviation industry has undergone changes and improvement in many folds, yet, the doctrine with it is an application with reference to aircraft accidents have not much developed over time.

The primary and traditional system is being followed to adjudge the application, to safeguard the aviation industry, as it was done to promote it in the 1940s. The development in the Meteorological sphere has not been acknowledged, and still, the cases of turbulences are being considered as Act of God. Several lives are going due to the negligence of certain bodies and people, which is not coming under the ambit of this doctrine. There is a trend that the aircraft accident cases, application of the rules of negligence are being promoted more.

There are ambiguity and unsettlement with reference to even the application of the doctrine. In one country itself, there are different practices being followed in different jurisdictions. This disorder application is leading to the cacophony and gross injustice. Being a welfare state, and the doctrine being for the advantage of the plaintiff, who already has faced loss in the form of lives, injury, etc, should not be rejected the benefit of this doctrine, just by having different practices.

Further, there is a need of better understanding of the doctrine, as the courts have refused to acknowledge the doctrine in many cases, on the grounds that there are specific negligence's been contended by the Plaintiff.

Furthermore, the doctrine is not limited to holding the Aircraft operator or the pilot negligent only. There are several bodies or people,

under whose control the aircraft operates. Their actions are significant, from the designer to the manufacturer, and so on. Therefore, the doctrine needs to be applied, in cases where it is contended that any other body, including ATC, has been negligent in doing its function. There are successive hands, that the aircraft goes through, in which they have exclusive control; therefore, the negligent actions of such bodies should not be avoided.

The actions of the state, with reference to monitoring the cost-cutting policies, need to increase. The aviation industry is facing a gross competition from one another, but the policies being undertaken is putting lives at stake, and being welfare states, and acknowledging where the aviation industries are right now, there needs to be more monitoring required. The countries further need to amend the international instruments or formulate a new instrument to resolve the issue. Because, the aftermath of the recovery stage of Covid-19[66] , there are several airlines expected to be bankrupt, for the ceasing of flight. In this aftermath, several airlines which survive the economic turmoil is expected to come with further cost-cutting policies and bring more people under the risk. Such policies should be referred to as an act of negligence if they are not taking due care of people and resulting in accidents or injury of people.

At this point, the application of the doctrine is at deplorable condition, even though some jurisdictions have been unbarred about it is application. However, there are several issues in which it is yet to apply —starting with turbulent cases, to faulty technological cases leading to accidents. Being the most technologically developed instrument, having the sufficient instruments for its safety, the aircraft accidents furthermore have the most substantial chances of the doctrine been applied to.

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[66] Anurag Kotoky, Coronavirus Will Bankrupt Most Airlines by May Without Government Help, Analyst Warns, The TIME(16 March 2020) < https://time.com/5803757/coronavirus-airlines-bankrupt/ > accessed 30 March 2020