�=31

በኢትዮጵያ ፌደራላዊ ዴሞክራሲያዊ ሪፐብሊክ
የትራንስፖርት ሚኒስቴር
THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF TRANSPORT

ቁጥር
Ref. No _16፣4/38_

ቀን
Date. 0 2 የካቲት 2004

አዲስ አበባ - ኢትዮጵያ
ADDIS ABABA, ETHIOPIA

ለፌደራል ትራንስፖርት ባለሥልጣን
አዲስ አበባ

ጉዳዩ፦ የፍሊት ማኔጅመንት መመሪያዎችን ስለመላክ

ብሔራዊ የፍሊት ማኔጅመንት ሥርዓት ተግባራዊ ለማድረግ የተዘጋጁትን የፍሊት
ማኔጅመንት መቆጣጠሪያ መሣሪያ ስለመጠቀም የወጣ መመሪያ እና የፍሊት ማኔጅመንት
አገልግሎት ሰጪ ብቃት ማረጋገጫ መመሪያን አዕድቀን ለአፈፃፀም በዚህ ደብዳቤ ሽኚነት
እየላክን በዚሁ መሠረት በተቻለ ፍጥነት ወደ ትግባራ እንዲገባ እናሳበስባለን።

ከሰላምታ ጋር

አባሪ፦ ሁለት ጥራዝ

ጌታቸው መንግስቴ
ሚኒስትር ዴኤታ

ግልባጮ፣
• ለገቢዎችና ጉምሩክ ባለሥልጣን
• ለኢንፎርሜሽን መረብ ደህንነት ኤጀንሲ
  አዲስ አበባ

19/06/07
3037   ጌጌታ

☎ 011-551 61 66   ፋክስ 011-551 56 65   ✉ 1238
                     Fax
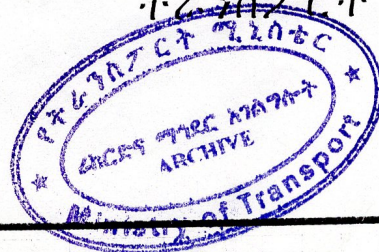
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685/2013

የካቲት 2004
ትራንስፖርት ሚኒስቴር

መግቢያ

የትራንስፖርት ሚኒስቴር በአዋጅ ቁጥር 691/2003 የትራንስፖርት አገልግሎትና አቅርቦትን የማስፋፋት፣በተቀናጀ መንገድ እንዲፈፀምና የሀገሪቱን የልማት ስትራቴጂዎች በተሟላ ሁኔታ እንዲያገለግል መደረጉን የሚያረጋግጥ እንዲሁም አገልግሎቱ አስተማማኝና ደህንቱ የተጠበቀ መሆኑን ለማረጋገጥ የሚያስችል የቁጥጥር ሥርዓት እንዲዘረጋና ብሎም ሥራ ላይ እንዲውል የማድረግ ኃላፊነት ተሰጥቶታል። በዚህም ምክንያት ዘመናዊና በቴክኖሎጂ የተደገፈ የትራንስፖርት ስምሪትና አደረጃጀት ሥርዓትን የሚያሰፍን የፍሊት ማኔጅመንት ሥርአት ተግባራዊ የሚሆንበት የመረጃ ማዕከል በሚኒስቴር መ/ቤቱ ተቋቁሞ በመስራት ላይ ይገኛል።

በአሁኑ ወቅት የሀገራችን የኢኮኖሚ ዕድገት ከጊዜ ወደ ጊዜ እያደገና እየጨመረ ቢመጣም ለዚህ የኢኮኖሚ ዕድገት አጋርና ደጋፊ የሆነ በአደረጃጀቱ ዘመናዊና ወጪ ቆጣቢ እንዲሁም ደህንነቱ የተጠበቀ የትራንስፖርት አገልግሎት የለም። አሁን ያለው የትራንስፖርት አገልግሎት በአደረጃጀቱም ሆነ ተደራሽነቱ ከአገሪቱ የኢኮኖሚ ዕድገትጋር ተመጣጣኝ አይደለም። እንደ አሰራርም ትራንስፖርትን በተደራጀ መልኩ በጊዜ ሥሊዳ ለማስራትና የትራፊክ እንቅስቃሴውን ለመቆጣጠር ብሎም ተያያዥነት ያለው የረጅም ጊዜ ዕቅድ በማዘጋጀት ወቅታዊ መረጃ ለማግኘት ለምሳሌም የዕቃዎችን ደህንነት፣ የደንበኞች አገልግሎትን ለመቆጣጠርና ለመከታተል የሚያስችል ሥርዓት አልተተገበረም። ከዚህ አንጻር ዘመናዊና በቴክኖሎጂ የተደገፈ የትራንስፖርት ስምሪትና አደረጃጀትን የሚያሰፍን የፍሊት ማኔጅመንት ሥርአት መዘርጋት አስፈልጓል።

የፍሊት ማኔጅመንት ሥርዓት ለዘርፉ ብዙ ጥቅም ያለው ሲሆን አሁን ያለውን በንቢና በወጪ እቃ ማጓጓዝ ሂደት የሚክስተውን ችግር ከመቅረፍ በተጨማሪ ዕቃን የማጓጓዝ ሥርዓቱ ቀልጣፋ፣ ደህንነቱ የተጠበቀና ወጪ ቆጣቢ እንዲሆን ያደርገዋል። ከዚህም ሊላ በሀገሪቱ ያለውን የትራንስፖርት ስምሪት ለመቆጣጠር በዕቅድ ለማምራት፣ የዕቃ ዋጋንና የትራንስፖርት ወጪን ለመወቅና ለመከታተል የትራንስፖርት የጉዞ ምልልስ ከፍ ለማድረግ፣ ተሽከርካሪዎች ረጅም ጊዜ አገልግሎት እንዲኖራቸው፣ የዕቃዎችን ደህንነት ለመከታተልና ለመቆጣጠር ያስችላል። ስለሆነም የትራንስፖርትን ዘርፍ አሱራ ዘመናዊና በቴክኖሎጂ በመደገፍ ለሀገር ኢኮኖሚ ግንባታ እገዛ እንዲያደርግ ለማስቻል ከአገሪቱ ተጨባጭ ሁኔታ ጋር የተገናዘበ የፍሊት ማኔጅመንት ሥርዓት ተግባራዊ ማድረግና በዚሁ መሰረትም የግሉ ሴክተር እንዲሳተፍ ማደረግ አስፈላጊ ነዉ። የፍሊት ማኔጅመንት አገልግሎት በግሉ ሴክተር መስጠቱ በትራንስፖርት የሚጓጓዝ ጭነት ወይም ተጓዥ

ደህንነቱ በተጠበቀ ሁኔታ እንዲሁም በአስተኛ ወጪና ጊዜ እንዲጓጓዝ አስተዋጽኦ የሚያደርግ በመሆኑ፣ በተለይም በአሁኑ ሰዓት በሀገራችን ይህን ዓይነት አገልግሎት መስጠት የሚያስችል ሥርዓት የተዘረጋ በመሆኑና ይህንንም አቅም በተሟላ ሁኔታ መጠቀም ያስፈልጋል። ስለሆነም በአገልግሎት አሰጣጥ ሂደት ውስጥ የሚሳተፉ ማህበራት፣ ንግድ ኩባንያዎች ፣ ግለሰቦችና ሌሎችም ከመሳተፋቸ. በፊት ብቃታቸ.ን በማረጋገጥ የትራንስፖርት ዘርፉ አሠራር በዘመናዊ በቴክኖሎጂ የተደገፈ እንዲሆን ማድረግ ተገቢ ሆኖ በመገኘቱ የትራንስፖርት ሚኒስቴር በአዋጅ ቁጥር 691/2003 አንቀጽ 23/1/ሐ የትራንስፖርት አገልግሎትን በተመለከተ የቁጥር ሥርዓት እንዲዘረጋና ሥራ ላይ እንዲውል ለማድረግ በተሰጠው ሥልጣን መሠረት ይህንን መመሪያ አውጥቶአል።

ክፍል አንድ

1. አጭር ርዕስ

1. ይህ መመሪያ " የፍሊት ማኔጅመንት አገልግሎት ሰጭ የብቃት ማረጋገጫ መመሪያ " ተብሎ ሊጠቀስ ይችላል።

2. ትርጓሜ

በትራንስፖርት አዋጅ ቁጥር 468/97 የተመለከቱት ትርጓሜዎች በዚህ መመሪያ ላይ ተፈጻሚ መሆናቸው እንደተጠበቀ ሆኖ የቃሉ አገባብ ሌላ ትርጉም የሚያሰጠው ካልሆነ በስተቀር በዚህ መመሪያ ውስጥ:-

1. "ሚኒስቴር" ማለት የትራንስፖርት ሚኒስቴር ነው።

2. "ፍሊት ማኔጅመንት ሥርዓት " ማለት የአከርካሪን አፈ፣ዓዐም፣የመንገደኛን እና የጭነትን ደህንነት እንዲሁም የተሸከርካሪን አጠቃላይ እንቅስቃሴ፣ደህንነት፣ ኢኮኖሚያዊነት እና ቅልጥፍናን ለመቆጣጠር እና ወጪታማ በሆነ መንገድ ለመምራት የሚያስችል ስርዓት ነው።

3. "መቆጣጠሪያ መሣሪያ" ማለት በተሸከርካሪ ወይም በጭነቱ ላይ የሚገጠም የፍሊት ማኔጅመንት ስርአት መቆጣጠሪያ መሣሪያ ሲሆን ስለተሸከርካሪው ሁኔታ ስለተንገተች ወይም ስለተሟንደው ጭነት እንቅስቃሴ እንዲሁም የፈሱን የመሣሪያውን ደህንነት

2

በተመለከተ መረጃ እየመዘገብ ለመቆጣጠሪያ ጣቢያ ወይም ለመረጃ ማዕከል የሚያስተላልፍ ኤሌክትሮኒክስ መሣሪያ ነው።

4. "ዕቃ" ማለት የቁም እንስሳትን ፣ ኮንቴነሮችን፤ የዕቃ ማሸጊያዎችን እና ቁሳቁሶችን ጨምሮ በጥቅል፤ በብትን፤ በፈሳሽ መልክ ፣በዓይነት የሚንንዝ ማንኛውም ዋጋ ያለው ዕቃ ወይም ንብረት ነው።

5. "ዳታ" ማለት በተሽከርካራው ወይም በ፡ኔነው ጭነት ላይ በተገጠመው መሣሪያ ስለተሽከርካራው እንቅስቃሴ፣ ስለ፡ኔነው ጭነት ወይም ስለሚያንንዘው መንገደኛ በተመለከተ እንደአግባብነቱ ለመረጃ ማዕከል ወይም ለመቆጣጠሪያ ጣቢያ ወይም ለተጠቃሚው ወይም ለአገልግሎት ሰጭ፡ው የሚተላለፍ መረጃ ነው።

6. "የአገልግሎት ብቃት አረጋጋጭ አካል" ማለት ትራንስፖርት ባለስልጣን ሲሆን በዚህ መመሪያ የፍሊት ማኔጅመንት መረጃ አገልግሎትን ለራሱ ወይም ለሌላ አካል ለሚያቀርብ አገልግሎት ሰጭ ወይም ለራስ ተጠቃሚ ብቃትን የሚያረጋግጥና የሚመዘግብ ነው።

7. "የመቆጣጠሪያ መሣሪያ ብቃት አረጋጋጭ" ማለት የወጪና ገቢ እቃን የሚያንንዝ ተሽከርካሪን የሚመለከት <u>መቆጣጠሪያ መሳሪያ</u> ከሆነ የኢትዮጵያ ገቢዎችና ጉምሩክ ባለስልጣን ሲሆን ሌላ ተከርካሪን በሚመለከት የትራንስፖርት ባለስልጣን ነው።

8. "የመረጃ ማዕከል" ማለት በፍሊት ማኔጅመንት መቆጣጠሪያ መሣሪያ አማካኝነት የተሽከርካሪ እንቅስቃሴ መረጃ የሚሰበሰብበትና በሚኒስቴር መ/ቤቱ የሚገኝ የመረጃ ማዕከል ነው።

9. "ተጠቃሚ" ማለት የፍሊት ማኔጅመንት መቆጣጠሪያ መሣሪያ የመጠቀም ግዴታ ያለበት የዓ፡ነት ወይም የሕዝብ ትራንስፖርት ተሽከርካሪ ባለንብረት፣ ማህበር ወይም ኩባንያ ማለት ነው።

10. "በራስ ተጠቃሚ" ማለት የፍሊት ማኔጅመንት አገልግሎት በራስ አቅም የሚጠቀም የዓ፡ነት ወይም የሕዝብ ትራንስፖርት ተሽከርካሪ ባለንብረት፣ ማህበር ወይም ኩባንያ ማለት ነው።

11. "አገልግሎት ሰጭ" ማለት የፍሊት ማኔጅመንት አገልግሎትን በሚመለከት ትራንስፖርት ባለስልጣን እንዲሁም የወጪና ገቢ እቃን የሚያንንዝ ተሽከርካሪን የሚመለከት መቆጣጠሪያ መሳሪያን የኢትዮጵያ ገቢዎችና ጉምሩክ ባለስልጣን እንዲሁም ሌላ ተሽከርካሪን በሚመለከት ከትራንስፖርት ባለስልጣን የፍሊት ማኔጅመንት አገልግሎት እንዲሰጥ የብቃት ማረጋገጫ የተሰጠው እና ከንግድ

3

ሚኒስቴር የሰራ ፈቃዱ የተሰጠው ግለሰብ ወይም በሕግ የሰውነት መብት የተሰጠው
ድርጅት ነው።

12. "አገልግሎት መስጠት" ማለት ለተጠቃሚው መቆጣጠሪያ መሣሪያ የመግጠም፣
የመጠገን፣ የማደስ እና የመረጃ አገልግሎት መስጠት ማለት ነው።

3. የመመሪያው ዓላማ

የዚህ መመሪያ ዓላማ የፍሊት ማኔጅመንት ስርዓት በመተግበር የቴክኖሎጂና የሕዝብ ማመላለሻ
እንቅስቃሴ ቀልጣፋ፣ ወጪ ቆጣቢና ደህንነቱ የተጠበቀ እንቅስቃሴ እንዲሆን ለማስቻል
የአገልግሎት ሰጪውን ወይም በራስ ተጠቃሚውን እንዲሁም የብቃት አረጋጋጮችን አሠራር
መወሰን ነው።

4. የተፈጻሚነት ወሰን

ይህ መመሪያ ዕቃን፣ ሕዝብን ወይም ሁለቱንም በአንድ ላይ የማጓጓዝ አገልግሎት በሚሰጥ
የትራንስፖርት ማመላለሻ ተሽከርካሪ እና የፍሊት ማኔጅመንት አገልግሎትን በሚሰጥ
አገልግሎት ሰጪ፣ በራስ ተጠቃሚ ፣ተጠቃሚ እና የአገልግሎትና የመቆጣጠሪያ መሣሪያ
ብቃትን በሚያረጋግጠው አካል ላይ ተፈጻሚ ይሆናል።

ክፍል ሁለት

የብቃት ማረጋገጫ ለማግኘት የሚያበቁ ሁኔታዎች

5. የብቃት ሁኔታ

ማንኛውም አገልግሎት ሰጪ ባለፈቃድ ለመሆን ቀጥሎ የተገለፁትን የብቃት መስፈርትና
አሠራር ካሟላ በኋላ ከራስ ተጠቃሚ በስተቀር ከንግድ ሚኒስቴር የሰራ ፈቃድ ማውጣት
ይኖርበታል።

1. የፍሊት ማኔጅመንት አገልግሎት ሰጪ ወይም በራስ ተጠቃሚ የፍሊት
   ማኔጅመንት አገልግሎት ለመስጠት ወይም ለመጠቀም እንደአግባብነቱ ከዚህ

4

መመሪያ ጋር በአባሪ 1 ፤2 እና 3 የተያያዘውን የብቃት ማረጋገጫ መስፈርት ማሟላት ይገባዋል፤

2. በዚህ አንቀፅ ንኡስ አንቀፅ 1 የተቀመጠው መስፈርት እንደተጠበቀ ሆኖ የፍሊት ማንጅመንት አገልግሎት ሰጭ ወይም ወይም በራስ ተጠቃሚ የብቃት ማረጋገጫ እንዲሰጠው ሲጠይቅ፤

   ሀ. ማህበር ወይም የንግድ ማንበር ከሆነ ማነበሩ ለመቋቋሙ የተሰጠውን ሰርተፊኬት እና የግብር ከፋይነት የምዝገባ ወረቀት ወይም ግለሰብ ከሆነ የግብር ከፋይነት የምዝገባ ወረቀት፤

   ለ. ከመረጃ ማዕከሉ ጋር የሚናበብ ሶፍትዌር፤

   ሐ. የድርጅቱ ሠራተኞች ከድርጅቱ ጋር ያደረጉትን የሥራ ውል ፤ የትምህርትና የሥራ ልምድ ማስረጃቸውን ማቅረብ አለበት፤

6. ስለ አገልግሎት መስጫ መሣሪያዎች

ማንኛውም የፍሊት ማኔጅመንት አገልግሎት ሰጭ ፤በራስ ተጠቃሚ ወይም ተጠቃሚ ለአገልግሎት የሚጠቀመው መሣሪያ በአገልግሎት ብቃት አረጋጋጭ ስለመሣሪያው ደረጃ ወይም ጥራት የሚወጣውን መስፈርት ያሟላ መሆን አለበት ።

ክፍል ሦስት

ብቃት የሚረጋገጥበት አሠራር

7. ስለ ብቃት ማረጋገጫ ማመልከቻ

1. ማንኛውም አገልግሎት ሰጭ በዚህ መመሪያ መሠረት የብቃት ማረጋገጫ ለማግኘት በቅድሚያ የጽሑፍ ማመልከቻውን የአገልግሎት እና የመቆጣጠሪያ መሣሪያ ብቃትን ለሚያረጋግጠው አካል ማቅረብ አለበት።

2. የአገልግሎት እና የመቆጣጠሪያ መሣሪያ ብቃትን የሚያረጋግጠው አካል የአገልግሎት ሰጪው ወይም በራስ ተጠቃሚው የብቃት ማረጋገጫ እንዲሰጠው ሲጠይቅ በዚህ መመሪያ ውስጥ የተዘረዘሩትን የብቃት መስፈርቶች ማሟላቱን በማረጋገጥ ለአመልካቹ የብቃት

5

ማረጋገጫ ይስጠዋል፣ ወደ አገልግሎት ለመግባት የሚያስችለውንም የምዝገባ ሥርዓት ያከናውናል፣

3. ለጠየቀው የብቃት ማረጋገጫ በዚህ መመሪያ ውስጥ የሚጠየቀውን የብቃት መስፈርት ካላሟላ ማሟላት የሚገባውን ሁኔታ በዝርዝር በማስረዳት አሟልቶ እንዲመጣ ይገልጽለታል።

8. ስለብቃት ማረጋገጫ ቁጥጥር

ትራንስፖርት ባለስልጣን አገልግሎት ሰጪው ወይም በራስ ተጠቃሚዉ በተሰጠው የብቃት ማረጋገጫ መሰረት ደረጀውን የጠበቀ አገልግሎት በአግባቡ እየሰጠ ወይም እየተጠቀም ስለመሆኑ ተገቢውን ክትትልና ቁጥጥር በየጊዜው ያደርጋል። *acces ያገባል pos tongle*

ክፍል አራት

የአገልግሎት ሰጪው ወይም በራስ ተጠቃሚ ግዴታ

9. አገልግሎት ሰጪዉ ወይም በራስ ተጠቃሚ የሚከተሉት ግዴታዎች ማክናወን አለበት፣

   1. በዚህ መመሪያ በተሰጠው የብቃት ማረጋገጫ ላይ የተዘረዘሩትን *መስፈርት* ተከትሎ መሥራት አለበት።

   2. ብቃትን የሚያረጋገጠው አካል በሚወስነው ጊዜ ውስጥ የብቃት ማረጋገጫውን ማሳደስ አለበት።

   3. አስፈላጊ ሆኖ ሲገኝና ሲጠየቅ የሚጠቀምባቸውን መሳሪያዎች ብቃትን ለሚያረጋግጠው አካል ማቅረብና የመሳሪያውን ትክክለኛነት ማረጋገጥ አለበት።

   4. በየ3 (ሶስት) ወሩ የስራውን ክንውን ሪፖርት ለትራንስፖርት ባለስልጣን በፅሁፍ ማቅረብ አለበት። የሪፖርቱ ይዘት ምን ምን ጉዳዮችን እንደሚያካትት ትራንስፖርት ባለስልጣን ይወስናል።

   5. አገልግሎት ሰጪው በስራው አጋጣሚ የሚያውቃቸውን የተጠቃሚውን ዳታ ተጠቃሚው በፅሁፍ ካልፈቀደ በስተቀር ለሌላ ሶስተኛ ወገን ማስተላለፍ የለበትም። ከዚህ በተጨማሪም በስራዉ አጋጣሚ የሚያውቃቸውን የመረጃ ማዕከሉን ዳታ ለሶስተኛ ወገን ማስተላለፍ የለበትም።

6

6. ለፍሊት ማኔጅመንት ሥርዓት ለመጠቀም ብቃት ማረጋገጫ የወሰደበትን መሳሪያዎች ለተፈቀደለት አገልግሎት ብቻ ማዋል አለበት::

7. ከራስ ተጠቃሚ በስተቀር የፍሊት ማኔጅመንት አገልግሎትን ለማስጠት የሚያስችለውን ውል አገልግሎት ከሚሰጠው ተጠቃሚ ጋር መዋዋልና የአገልግሎት ብቃትን ለሚያረጋግጠው አካል ቅጂውን ማቅረብ አለበት፣

8. አገልግሎቱን ለመጀመር የሚያስችለውን ቅድም ዝግጅት አስቀድሞ ከመረጃ ማዕከሉ ጋር ማድረግና መረጃ የሚለዋወጥበት ሥርዓት የተሟላ መሆኑን ማረጋገጥ አለበት::

9. ለመረጃ ማዕከሉ አገልግሎት የሚሰጥበትን ሶፍትዌር ወይም ሊሎች እንዲያቀርብ የሚጠየቀውን መረጃዎችን አሟልቶ ማቅረብ አለበት፣

10. ከራስ ተጠቃሚ በስተቀር እውቅና በተሰጠው መሳሪያና የቴክኒክ ዕውቀት ባላቸው ባለሙያዎች በመጠቀም ከተጠቃሚው ጋር በገባው ውል መሠረት አገልግሎቱን በአግባቡ መስጠት አለበት::

11. ብቃትን የሚያረጋግጠው አካል ስለፍሊት ማኔጅመንት መረጃ አገልግሎት መስጫ መሣሪያ እንዲሁም ተያያዥነት ስላላቸው ሊሎች መሳሪያዎች በየጊዜው የሚያወጣውን ደረጃ ወይም መስፈርት ወይም ስለአገልግሎቱ የሚያወጣውን አሠራር ማሟላትና መከተል አለበት::

12. የፍሊት ማኔጅመንት መረጃዎች ወደ መረጃ ማዕከሉ በወቅቱና በአግባቡ እንዲደርስ ማድረግ አለበት::

13. የሚጠቀምበት የፍሊት ማኔጅመንት አገልግሎት መስጫ ሥርዓት (ሶፍትዌር) በመረጃ ማዕከሉ ከሚገኘው የፍሊት ማኔጅመንት ሥርዓት (ሶፍትዌር) ጋር የሚናበብ መሆን አለበት::

14. ዕውቅና በአገኘበት አገልግሎት ዓይነት ለተጠቃሚው ቢያንስ ለአንድ ዓመት የመረጃ አገልግሎቱን ለመስጠት እንደሚችል የዋስትና ግዴታ መግባት አለበት::

15. ለተጠቃሚው ሠራተኛ ስለፍሊት ማኔጅመንት መሳሪያ አጠቃቀምና አሠራር ስልጠና መስጠት አለበት::

16. አገልግሎት ለመስጠት ውል የተዋዋላቸውን የተጠቃሚዎች ዝርዝር የአገልግሎት ውል እንደፈፀመ ለትራንስፖርት ባለሥልጣን ማሳወቅ አለበት::

10. ብልሽትን ወይም አገልግሎት ማቋረጥን የማሳወቅ ግዴታ

የፍቃድ ማኔጅመንት አገልግሎት ሰጭ ፣

1. በመሳሪያ ብልሽት ወይም በሊላ ምክንያት የመረጃ አገልግሎት መስጠት ቸግር ሲያጋጥም በ48 ሰዓት ውስጥ ለመረጃ ማዕከሉ እና ለተጠቃሚው በጽሁፍ ማሳወቅ አለበት።

2. ከተጠቃሚው ጋር የገባውን ውል ካቋረጠ በ3 ቀናት ውስጥ ለትራንስፖርት ባለሥልጣን በጽሁፍ ማሳወቅ አለበት።

11. በራስ ተጠቃሚን በሚመለከት

የፍቃድ ማኔጅመንት አገልግሎት መሣሪያን ለራሱ የሚጠቀም ተጠቃሚ ከፍ ብሎ በአንቀጽ 10 የተጠቀሱት ግዴታዎች እንደአግባብነቱ ተፈፃሚ ይሆኑበታል።

ክፍል አምስት
ልዩ ልዩ ድንጋጌዎች

12. ስለተጠያቂነት

ይህን መመሪያ የሚተላለፍ ማንኛውም የፍቃድ ማኔጅመንት አገልግሎት ሰጭ ፣ በራስ ተጠቃሚ ወይም ተጠቃሚ በትራንስፖርት ባለስልጣን የሚተላለፈውን አስተዳደራዊ እርምጃን ጨምሮ አግባብነት ባለው ሕግ መሠረት ተጠያቂ ይሆናል።

13. የብቃት ማረጋገጫ ስለመሰረዝ

1. የአገልግሎት ብቃት አረጋጋጭ ወይም የመቆጣጠሪያ መሣሪያ ብቃት አረጋጋጭ አካል የሰጠውን ብቃት ቀጥሎ በተመለከተው ምክንያት ሊሰርዝ ይችላል፤

   ሀ. አገልግሎት ሰጭው ወይም በራስ ተጠቃሚዉ በዚህ መመሪያ መሠረት ማሟላት የሚገባውን ብቃት ሳያሟላ በዚህ መመሪያ የተጠቀሱትን ግዴታዎች ሳያከብር ሲቀር ወይም ያለበትን ግዴታ መፈፀም ሳይችል ሲቀር፤

8

ለ. አገልግሎት ሰጭው ወይም በራስ ተጠቃሚዉ ብቃት ማረጋገጫዉን ያገኘዉ በሀሰት ወይም በተጭበረበረ መረጃ መሆኑ ሲረጋገጥ፤

ሐ. ለፍሊት ማኔጅመንት ሥርዓት ትክክለኛና ወቅታዊ መረጃን ማስተላለ ሳይችል ሲቀር፤

መ. አገልግሎት ሰጭው ወይም በራስ ተጠቃሚዉ. ሲከስር ወይም ሥራዉን ሲተዉ ወይም፤ የብቃት ማረጋገጫዉ መሳደሻ ጊዜ ሲያልቅ

ሠ. ብቃትን የሚያረጋግጠዉ አካል ብቃት ማረጋገጫዉን ለመሰረዝ አግባብነት አለዉ በሚላቸዉ ሌሎች ህጋዊ ምክንያቶች፡፡

2. በዚህ አንቀፅ ንኡስ አንቀፅ 1 የተመለከተዉ እንደተጠበቀ ሆኖ የትራንስፖርት ባለስልጣን አገልግሎት ሰጪዉን በሚመለከት ብቃት ማረጋገጫዉን ከመሰረዙ በተጨማሪ የስራ ፈቃዱ እንዲሰረዝ ለንግድ ሚኒስቴር ማሳወቅና ጉዳዩን መከታተል ይኖርበታል፡፡

14. መመሪያዉን ስለማሻሻል

የትራንስፖርት ሚኒስቴር ይህን መመሪያ የማሻሻል ወይም የመለወጥ ሥልጣን አለዉ፡፡

15. መመሪያዉ የሚፀናበት ጊዜ

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Annex I

Locking Seal Technical Specification

1. Vendors interested in supplying ECTS Transporter Equipment shall comply with appropriate operational, environmental and regulatory requirements and certifications needed to ensure the secure, safe and reliable operation of the ECTS system.

2. Compliance with Operational Requirements will be determined by ERCA as per the Locking Seal Test Procedure (LSTP) which will be presented to interested vendors upon written request.

3. Compliance with the Environmental and Regulatory Certifications will be determined when the vendor presents ERCA with a valid Certificate of Compliance indicating compliance with the required standard. This Certificate of Compliance must be issued by an accredited testing laboratory and must cover the ECTS Locking Seal models being provided.

4. It is the responsibility of the ECTS Locking Seal Vendor to identify, understand and comply with the aforementioned OPERATIONAL, ENVIRONMENTAL and REGULATORY CERTIFICATIONS.

5. OPERATIONAL REQUIREMENTS OF THE LOCKING SEALS

   Locking seals

   5.1 must be portable, reusable, durable, wireless electronic seal that provides robust physical security as well as automatic processing and real-time monitoring of secured cargo both in transit and in storage

   5.2 must provide physical security equivalent to a bolt seal on a container door

   5.3 must be able to secure non-containerized cargo

   5.4 designed for fuel applications must be able to secure fuel truck hatches and valves

   5.5 must use RFID (Radio Frequency Identification) wireless technology, including a transmitter/ receiver unit, read/write capability, real-time clock, memory and sensing circuitry for sealing verification

   5.6 must use encrypted and embedded sensors to prevent any attempt at opening, bypassing, or tampering with the device causing it to record the event and send an alert as needed

   5.7 must be able to store open/close, tamper and other events in internal memory as needed

   5.8 must be able to store ERCA shipping manifest/documentation in internal memory

   5.9 must have internal battery that provides 4 years of maintenance-free operation with no recharging needed

   5.10 shall be based on a full 2 way Simplex or Duplex Frequency Ranges:

       5.10.1 Low frequency: 125 KHz or equivalent for short range communication

       5.10.2 High frequency: 433.92 MHz (ISM Band)

   5.11 Must communicate at a distance of 100+ meters in open space

   5.12 must be able to communicate with the ECTS Network and/or approved ECTS Cab Kits

   5.13 must be IP65 compliant casing and enclosure

   5.14 should operate within operating Temperatures of -5°C to +70°C and Storage Temperature of -5°C to +80°C

   5.15 shall be designed for extended outdoor use on roads, ports, fuel depots and transportation environment

   5.16 must have RF Beam Divergence:

       5.16.1 Omni-directional on non-metal wall

       5.16.2 Hemispherical on metal wall

   5.17 Must have memory that is able to hold up to 100 events at least

Annex I

5.18   Should have Motion/Tilt sensors

6. ENVIRONMENTAL CERTIFICATIONS

6.1   Complies with EN 12320 (Applies to Locking Mechanism)

No.	Test Name	Applicable environmental test specification/ method
1.	Temperature Cycling Test	SAE J1455 paragraph 4.1.3.1.
2.	Thermal shock cycling test	SAE J1455 paragraph 4.1.3.2.
3.	Mechanical shock test	MIL-STD-810D method 516.3 procedure 1 modified.
4.	Random vibration test	SAE J1455 Paragraph 4.9.3.2
5.	Temperature and humidity test	MIL-STD-810D, method 507.2 procedure I through III modified
6.	Splash test	SAE J1455 paragraphs 4.4 ,4.4.3
7.	Solar radiation test	See Description Below*
8.	Salt fog test	MIL-STD-810D, method 509.2 modified
9.	Free fall (drop) test	See Description Below**
10.	Dust Test	SAE J1455 paragraph 4.7

*Solar Radiation Test:

This test determines the effect of solar radiation on the seal that may be exposed to sunlight during operation or unsheltered storage. The seal shall be exposed to direct sun energy for **168** hours. At the conclusion of the exposure period, the seal shall be checked for functional electrical test and external visual.

**Free fall drop Test:

Item Condition	Unpacked.
Type of Drops	Aimed.
Drop Height	1.5 meter.
Number of Drops of Test Item	3 drops have been performed on each of the 6 axis.
Total Number of Drops	18 drops.

Annex I

7. REGULATORY CERTIFICATIONS

<table>
<tr><td colspan="2">European Union ⟨Ex⟩</td></tr>
<tr><td>EMC ,EMI, Radio</td><td>Tested to</td></tr>
<tr><td></td><td>EN 300 220-3 V1.1.1 : 2000</td></tr>
<tr><td></td><td>EN 300 330-2 V1.1.1 : 2001</td></tr>
<tr><td></td><td>EN 301 489-1 V1.2.1 : 2004</td></tr>
<tr><td></td><td>EN 301 489-3 V1.4.1 : 2002</td></tr>
<tr><td>Safety</td><td>Tested to</td></tr>
<tr><td></td><td>EN 60950-1:2001 ITE</td></tr>
<tr><td>Explosion Proof/HazLoc</td><td>Tested to</td></tr>
<tr><td>ATEX, Intrinsic Safety for

potentially explosive environments

ATEX Marking[1]:

II 2 G Ex ia IIB T4</td><td>CENELEC EN50014: 1997
CENELEC EN50020: 2002</td></tr>
</table>

Annex I

Links to the Operational and Regulatory standards are presented below as a courtesy to interested vendors:

SAEJ1455 - http://standards.sae.org/j1455_201101

EN 300 220-2 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-2&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-2%7cnull

EN 300 220-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-3&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-3%7cnull

EN 301 489-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-1-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-1-v1.2.1-2000-08%7cnull

EN 301 489-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-3-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-3-v1.2.1-2000-08%7cnull

EN 60950-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=BS+EN+60950-1%3a2006&SearchOption=0&PageNum=0&SearchTermsArray=null%7cBS+EN+60950-1%3a2006%7cnull

EN 50014 - http://www.techstreet.com/standards/bs_en/50014_1998?product_id=1115134

EN50020 - http://shop.bsigroup.com/en/SearchResults/?q=EN+50020

MIL STD 810D - http://www.everyspec.com/MIL-STD/MIL-STD+(0800+-+0899)/MIL-STD-810D_13772/

EN 12320 - http://webstore.ansi.org/FindStandards.aspx?SearchString=DIN+EN+12320%3a2001&SearchOption=0&PageNum=0&SearchTermsArray=null%7cDIN+EN+12320%3a2001%7cnull

ECTS – FMS Cab Kit Technical specifications

1. Vendors interested in supplying ECTS-FMS Transporter Equipment will need to comply with appropriate operational, environmental and regulatory requirements and certifications needed to ensure the secure, safe and reliable operation of the ECTS and FMS systems.

2. Compliance with Operational requirements will be determined by Authoritative body as per the cab kit test procedure (CKTP) which will be presented to interested vendors upon written request

3. Compliance with the Environmental and Regulatory certifications will be determined when the vendor presents the Authoritative body with a valid certificate of compliance indicating compliance with the required standard. This certificate of compliance may be issued by an accredited testing laboratory and must cover the ECTS – FMS cab kit models being provided.

4. It is the responsibility of the ECTS-FMS cab kit vendor to identify, understand and comply with the following OPERATIONAL, ENVIRONMENTAL and REGULATORY CERTEFICATIONS.

5. **OPERATIONAL REQUIREMENTS**

   5.1. Each ECTS – FMS cab kit must include an RFID reader to communicate with ECTS Locking Seals, GPS receiver to receive signals from the Global Positioning System satellite constellation and GPRS modem to communicate with the ECTS – FMS Network and a Hands free kit for a two way communication between the driver and the command center.

   5.2. The ECTS – FMS Cab Kit must at least support GPRS with TCP/UDP protocols and SMS communication protocol with auto-switching capability between GPRS and SMS with availability consideration and support the necessary air interfaces needed to operate on wireless networks in Ethiopia.

   5.3. The GPRS Modem operational frequency has to be a Quad band 850/1900 or 900/1800 MHz

   5.4. Provide real-time monitoring, status information and control of associated ECTS Locking Seals and must do so for multiple ECTS Locking Seals as needed to secure the container, cargo, fuel truck or assets being monitored.

   5.5. The ECTS – FMS Cab Kit must have the ability to provide the following vehicle status information : Vehicle location(latitude, longitude), Vehicle speed, Ignition status, Odometer status, Fuel in container value, Course (Heading) , Driver ID, engine RPM and other information that can be detected by peripherals and sensors which are connected to the Cab Kit digital and analog inputs. [The Cab Kit must be able to accept the peripherals to collect this information]

   5.6. The ECTS – FMS Cab Kit must be able to detect and report the following events or able to provide the necessary information to generate the events at the application (FMS software) level: Distance event, Panic button alert, Ignition ON/OFF, Excessive idling, Harsh breaking, Over/Under speeding, Harsh acceleration, Accident occurrence, Main power Disconnected, GPS Connected/Disconnected, Back up battery Connected/Disconnected, Towing, Tilting, Turning (Cornering) and Geo-fence Entrance/Exit. [The Cab Kit must be able to accept the peripherals to collect information about the events]

   5.7. The peripherals and sensors required to collect the information stated under (5.5) and events stated under (5.6) have to be availed with the Cab Kit.

5.8. The ECTS – FMS Cab Kit should have the ability to generate visual and audible alerts to the driver.

5.9. GPS receiver must have accuracy of a minimum of 10 meters CEP (50%) with unobstructed line of sight to the sky.

5.10. Capable of detecting missing seals and report on seal status and ensure the overall integrity of any given seal using an acceptable state of health (SOH) protocol with ECTS Locking Seals.

5.11. Must ensure the security and integrity of all transmissions to / from the ECTS Network

5.12. Must be able to communicate with the Multi-Vendor System (MVS) platform in the ECTS Network using industry standard web services via open API to be provided by ERCA.

5.13. Must be able to handle the following communication scenarios:

Send alerts, alarms, events from ECTS Lock Seals to ERCA Network

5.13.1.1. ECTS Lock Seals → ECTS – FMS Cab Kit → ECTS Network → ECTS Control Room (ERCA)

Receive messages, queries from ECRA Network and pass to ECTS Lock Seals

5.13.1.2. ECTS Lock Seals ← ECTS – FMS Cab Kit ← ECTS Network ← ECTS Control Room (ERCA)

Send Fleet Management information from Vehicle to MVS Platform in ERCA Network

5.13.1.3. Fleet Management Info → ECTS – FMS Cab Kit → MVS Platform → Fleet Management Application Server (can be operated by any 3rd party)

Receive information from Fleet Management Application and Take Appropriate Action

5.13.1.4. Perform Fleet Management Function (close relay, etc.) ← ECTS – FMS Cab Kit ← MVS Platform ← Fleet Management Application Server (can be operated by any 3rd party)

5.14. Must contain internal memory (logger) with a minimum of 2MB to store events and data that cannot be transmitted when modem has lost connectivity.

5.15. Must at least have two Analog Inputs, two Digital Inputs, two digital outputs and one Pulse input.

5.16. Must have CAN BUS interface for use as needed

5.17. Must be designed to operate with standard vehicle electrical power systems as per SAEJ1445 guidelines.

5.18. Able to display ECTS seal status using external LED display unit

5.19. The ECTS – FMS Cab Kit must have a rechargeable internal backup battery with a minimum of 6 Hrs of consistent operational time which includes ECTS seal status monitoring in case of vehicle power failure.

5.20. Uses UHF Frequency: 433.92 MHz, (ISM Band) for communication with ECTS Locking Seals. Range: Up to 100M (open space)

5.21. Wired or Over the air: programming (configuration) , Firmware upgrading and maintenance

6 ENVIRONMENTAL CERTIFICATIONS

6.1. Complies with SAEJ1455 cabin installation.
6.2. Operating temperature: -10°C to 70°C
6.3. Storage temperature: -20°C to 85°C

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European Union	$C\!\in$	
EMC , EMI, Radio	**Tested to**	
	EN 300 2201 V1.3.1 : 2000	
	EN 300 2203 V1.1.1 : 2000	
	EN 300 3301 V1.3.1 : 2001	
	EN 300 3302 V1.1.1 : 2001	
	EN 301 4891 V1.5.1 : 2004	
	EN 301 4893 V1.4.1 : 2002	
Safety	**Tested to**	
	EN 609501:2001 ITE	
Automotive	**Tested to**	
eMark	Complies with the European Community's Automotive Equipment Directive (2004/104/EC)	

	TUV Rheinland of North America, Inc.	
Industrial Safety	**Tested to**	
	UL 610101:2004 (TUV approved)	

7   REGULATORY CERTEFICATES

Lists to the operational and regulatory standards are presented below as a courtesy to interested vendors

SAEJ1455 - http://standards.sae.org/j1455_201101

EN 300 220-2 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-2&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-2%7cnull

EN 300 220-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-3&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-3%7cnull

EN 301 489-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-1-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-1-v1.2.1-2000-08%7cnull

EN 301 489-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-3-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-3-v1.2.1-2000-08%7cnull

EN 60950-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=BS+EN+60950-1%3a2006&SearchOption=0&PageNum=0&SearchTermsArray=null%7cBS+EN+60950-1%3a2006%7cnull

UL61010 - http://www.comm-2000.com/productdetails.aspx?sendingPageType=BisBrowser&CatalogID=Standards&ProductID=UL61010-1_2_S_20040712(ULStandards2)

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(ከበስፈና ወፅ እቃ ከማይመሳሰሉ ተሸከርካሪዎች ወፅ ላይ ማንኛውም ቀውጋኝነው ተዘካየሰበ ሽህዝር ተሸከርካሪ ተሸከርካሪ የማይመስል)

FMS – Device Technical Specification

8. Vendors interested in supplying FMS Transporter Equipment will need to comply with appropriate operational, environmental and regulatory requirements and certifications needed to ensure the secure, safe and reliable operation of the ECTS and FMS systems.

9. Compliance with Operational requirements will be determined by Authoritative body as per the test procedure which will be presented to interested vendors upon written request

10. Compliance with the Environmental and Regulatory certifications will be determined when the vendor presents the Authoritative body with a valid certificate of compliance indicating compliance with the required standard. This certificate of compliance may be issued by an accredited testing laboratory.

11. It is the responsibility of the FMS Device vendor to identify, understand and comply with the following OPERATIONAL, ENVIRONMENTAL and REGULATORY CERTEFICATIONS.

12. PERATIONAL REQUIREMENTS

12.1. Each FMS Device must include an GPS receiver to receive signals from the Global Positioning System satellite constellation and GPRS modem to communicate with the Mobile Network and a Hands free kit for a two way communication between the driver and the command center.

12.2. The FMS Device must support GPRS with TCP/UDP protocols and SMS communication protocol with auto-switching capability between GPRS and SMS with availability consideration and support the necessary air interfaces needed to operate on wireless networks in Ethiopia.

12.3. The GPRS Modem operational frequency has to be a Quad band 850/1900 or 900/1800 MHz

12.4. The FMS Device must have the ability to provide the following vehicle status information : Vehicle location(latitude, longitude), Vehicle speed, Ignition status, Odometer status. Fuel in container value, Course (Heading), engine RPM and other information that can be detected by peripherals and sensors which are connected to the FMS Device digital and analog inputs. [The FMS Device must be able to accept the peripherals to collect this information]

12.5. The FMS Device must be able to detect and report the following events or able to provide the necessary information to generate the events at the application (FMS software) level: Distance event, Panic button alert, Ignition ON/OFF, Excessive idling, Harsh breaking, Over/Under speeding, Harsh acceleration, Accident occurrence, Main power Disconnected, GPS Connected/Disconnected, Back up battery Connected/Disconnected, Towing, Tilting, Turning (Cornering) and Geo-fence Entrance/Exit. [The FMS Device must be able to accept the peripherals to collect information about the events]

12.6. The peripherals and sensors required to collect the information stated under (5.4) and events stated under (5.5) have to be availed with the FMS Device.

12.7. The FMS device should have the ability to generate visual and audible alerts to the driver.

12.8. GPS receiver must have accuracy of a minimum of 10 meters CEP (50%) with unobstructed line of sight to the sky.

12.9. Must ensure the security and integrity of all transmissions to / from the FMS Network

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12.10. Must contain internal memory (logger) with a minimum of 2MB to store events and data that cannot be transmitted when modem has lost connectivity.

12.11. Must at least have two Analog Inputs, two Digital Inputs, two digital outputs and one Pulse input.

12.12. Must have CAN BUS interface for use as needed

12.13. Must be designed to operate with standard vehicle electrical power systems as per SAEJ1445 guidelines.

12.14. The FMS Device must have a rechargeable internal backup battery with a minimum of 6 Hrs of consistent operational time in case of vehicle power failure.

12.15. The Device must support Wired or Over the air: programming (configuration) , Firmware upgrading and maintenance

13. ENVIRONMENTAL SPECIFICATIONS

13.1. Complies with SAEJ1455 cabin installation.

13.2. Operating temperature: -10°C to 70°C

13.3. Storage temperature: -20°C to 85°C

European Union CE	
EMC , EMI, Radio	**Tested to**
	EN 300 2201 V1.3.1 : 2000
	EN 300 2203 V1.1.1 : 2000
	EN 300 3301 V1.3.1 : 2001
	EN 300 3302 V1.1.1 : 2001
	EN 301 4891 V1.5.1 : 2004
	EN 301 4893 V1.4.1 : 2002
Safety	**Tested to**
	EN 609501:2001 ITE
Automotive	**Tested to**
eMark	Complies with the European Community's Automotive Equipment Directive (2004/104/EC)

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Industrial Safety	**Tested to**
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EN 300 220-2 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-2&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-2%7cnull

EN 300 220-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=en+300+220-3&SearchOption=0&PageNum=0&SearchTermsArray=null%7cen+300+220-3%7cnull

EN 301 489-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-1-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-1-v1.2.1-2000-08%7cnull

EN 301 489-3 - http://webstore.ansi.org/FindStandards.aspx?SearchString=ETSI+EN+301+489-3-v1.2.1-2000-08&SearchOption=0&PageNum=0&SearchTermsArray=null%7cETSI+EN+301+489-3-v1.2.1-2000-08%7cnull

EN 60950-1 - http://webstore.ansi.org/FindStandards.aspx?SearchString=BS+EN+60950-1%3a2006&SearchOption=0&PageNum=0&SearchTermsArray=null%7cBS+EN+60950-1%3a2006%7cnull

UL61010 - http://www.comm-2000.com/productdetails.aspx?sendingPageType=BigBrowser&CatalogID=Standards&ProductID=UL61010-1_2_S_20040712(ULStandards2)

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**Service Providers/Transport companies [SPs / TCs] FMS data Service technical specification **

1. Working Place & Facilities

Criteria	Units Service Providers (አገልግሎት ሰጪ)	Units Transporter (በራስ ተጠቃሚ)	Description
1.1 Hardware & Software			
o Workstations	Qty.4	Qty.2	To Monitor and register records.
o Electrical Tools kit	Set.4	Set.2	Essential for installation of FMS Devices.
o Mechanical Tools Kit	Set.8	Set.4	Essential for installation, maintenance and services of FMS Devices.
o 24 Hours Call Center	1 Seats	N/A	To serve transporters and other stakeholders.
1.2 Facilities			
o Four Wheel Pickup trucks	Qty.2	Qty.1	Service Vehicles
o Installation / Service center	Qty.1	Qty.1	Minimum of 1,000 square meters area with a clean workshop.
o Insurance Bond	Based on the project cost	N/A	The percentage will be decided by **Federal Transport Authority**
o Office	Qty.1	Qty.1	Large enough to house the SP/TC FMS personnel, the product display unit and customer care center

(handwritten note beside Installation / Service center: "no 1000 Sm area")

2. Band width (Internet)

Service Providers

Uplink   Greater or equal to 2MBps [Mega Byte Per Second] – up to 1000 vehicles
Downlink   Greater or equal to 2MBps [Mega Byte Per Second] – up to 1000 vehicles
Note ➔ The Uplink and Downlink have to be increased by 1MBps per every 1000 vehicles added

Transporter

Uplink   Greater or equal to 1MBps [Mega Byte Per Second] – up to 1000 vehicles
Downlink   Greater or equal to 1MBps [Mega Byte Per Second] – up to 1000 vehicles
Note ➔ The Uplink and Downlink have to be increased by 1MBps per every 1000 vehicles added

3. Server Computer Minimum Specification

Brand

→ Can be any

Processor

Number or Processors	2
Processor type	Intel – XEON x 5670 [or equivalent → 6 cores and 12 threads per processor]
Processing Type	64 bit processing
Cache	2MB

RAM

Installed RAM	8 GB [Upgradable without replacement]
Maximum RAM	16 GB
Memory standard	DDR3-1333MHz
Network Adapter	Dual 10/100/1000 Base-T with RJ45 connection, full duplex
Video adapter	8MB RAM
Free Slots	2 PCI-X (After installation of all requirements)
Ethernet Technology	Giga bit Ethernet

Hard drive

Capacity	500 GB
Speed	15K RPM
Configuration	RAID 10

Operating system

Operating system	Windows Server 2008
Edition	Standard Edition
Number of CAL	5

Others

Ports	1 Serial port & 3 USB ports [at least 1USB port in the front]
Graphics Memory	8MB
Input voltage	220V AC
Optical drive	DVD drive
Case style	Rack

Number of Servers

Service Provider	4
Transporter	2

Network Devices

4. Routers

Routing Protocols	IP, RIP, RIP2, ARP, Proxy ARP, ICMP, OSPF
WAN Protocols	PPP, ML-PPP, Frame Relay RFC1490, ISDN, PPPoE, IP Filtering
Other Protocols	UDP, TCP, TFTP
Security	NAT, NAPT, Reverse NAPT, PAP, CHAP, IPSec
Quality of Service (QoS)	Priority Queuing
Forwarding Rate	2 million pps

LAN Interface Options	10Base-T (RJ45), 100Base-Tx
WAN Interface Options	V.35, V.21 V.24/RS422/RS530 ISDN BRI U, S/T 56/64K CSU/DSU T1/E1 CSU/DSU G.703

Number of Routers

Service Provider	1
Transporter	1

The following points are very helpful in evaluating routers:

- o It is recommended to acquire modular routers. The routers should be capable of accepting any standard LAN/WAN network modules and interface cards.
- o Should be rack mountable in a standard 19" rack and should come with the rack mounting accessories.
- o There should at least be two 10/100 Base-T LAN card. But it is recommended that there be Three.
- o There should be at least be one ADSL port
- o The LAN card should support VLANs, IEEE 802.1q VLAN Trunking protocol and router on the stick configurations.
- o Selection of WAN cards is based entirely on the available telecom infrastructure in the country. When selecting serial interfaces, it is recommended to select those that support both synchronous and asynchronous communication protocols.
- o The routers should have an embedded VPN support (IPSec, DES/3DES) capable of supporting up to 1200 VPN tunnels.
- o VPN: IPSec, DES/3DES
- o Network Management – SNMP, MIB II, Bridge MIB, Enterprise MIB, Telnet, Local RS-232 console port
- o Support for Stac/Stac LZS compression algorithms.
- o Protocol Spoofing – TCP session keepalives, IP RIP broadcast
- o WAN bandwidth management – Transport link activation/deactivation: Time of day, IP destination address, LAN traffic, automatic activation of 2nd link on main link threshold.

5. Switches

Memory	o 64 MB RAM
	o 32 MB flash memory

Interfaces	o Minimum of 24 x Ethernet 10Base-T/100Base-TX RJ-45 ports. o 1 x Console Port o 1 x Auxiliary Port
Uplink port	Minimum of 2 x 1000Base-X ports. Able to accept GBIC for 1000Base-T/1000Base-SX/1000Base-LX.
Switching Protocol	Ethernet
Communication Mode	Half- Full- Duplex auto-negotiating
MAC address Table Size	Minimum 8K
Remote Management Ports	SNMP, RMON, Telnet, HTTP

Number of Switches

Service Provider	1
Transporter	1

The following guidelines can be used when evaluating a switch product:

o Should be rack mountable in a standard 19" rack and should come with the rack mounting accessories.

o Manageable Switch through both command line interface and web browser.

o Access ports should at least be auto-sensing 10/100 Ethernet, and auto-negotiating on all ports to automatically select half- or full-duplex transmission mode to optimize bandwidth.

o Industry standard VLAN and VLAN Trunking support.

o Uplink ports should be Gigabit Ethernet ports. Depending on design the 1000BASE-TX, 1000BASE-SX or 1000BASE-LX can be specified.

o IEEE 802.1d Spanning Tree Protocol support for redundant backbone connections and loop free networking.

o IEEE 802.1s Multiple Spanning Tree Protocol support for spanning-tree instance per VLAN.

o IEEE 802.1x support for dynamic, port-based security for providing user authentication

o For network management purposes, it is recommended that the switch support SNMP version 2 and Remote Monitoring (RMON) software agent.

o A minimum of 2 Gbps switching fabrics with 2 Mpps forwarding rate based on a 64-byte packet.

6. Firewall

Administration	SSHvl/v2 compliant secure remote access
Secure Data Transfer	OpenPGP-compatible (RFC2440) system
Misuse Detection	o Routine secure transfer of logs and system status information o Routine monitoring of all system event logs
IP Spoofing Protection	o Incident detection, logging, and follow-up with administrators of attacking networks. o All network interfaces should automatically enforce

	o Spoof attempts should be logged and processed as intrusion attempts.
Application Proxies	HTTP - FTP - SMTP - POP/IMAP - TCP Plug
Packet Filtering	All predictable-port TCP/IP services
Network Address translation	Bi-directional NAT through application proxies. Uni- directional NAT through packet filters.
Branch Office VPN	o Full IP tunnels with 128 bit encryption. o Shared private key for each tunnel to eliminate attacks on key infrastructure.
Remote User VPN	Packet filters and proxies should be available to control VPN traffic. IPSec or PPTP.
DMZ Support	o Support of a minimum of 3 Ethernet segments, allowing 3 networks, VPN connections, special purpose extranets, or protected inside network segments. o All proxy and packet filter functionality should be available on all DMZ networks.
User Authentication	HTTPS-based username/password
Memory (for hardware FW)	Minimum 64M system memory - Flash-RAM storage

Number of Firewall

Service Provider	1
Transporter	1

7.   Staffing

Qulaification

Administrator **[Database + System+** **Network administrator]**	o BSC. Degree Computer Science / Electrical Enginerring/ IT / Other reated field o Minimum 1 year experience as System Administrator o Must have the basics
Technical support	o BSC. Degree Computer Science / Electrical Enginerring/ IT / Other reated field o 0 Year experience as Auto Electritian , Auto Mechanic
Operators	o Call Center Agent

Number

Service Provider	o 1 Administrator [Database + System + Network administrator] o 2 Technical Support o 1 operators
Transporter	o 1 Administrator [Database + System + Network administrator] o 2 Technical Support