CLAIMS

We claim:

1. A pre-wired and pre-engineered integrated platform for power supply and distribution that is pre-assembled, scalable, and modular, comprising:

a skeletal framework of the integrated platform that acts as an equipment support structure as well as a cable routing support system;

a set of cables having wiring routed along the skeletal framework of the integrated platform going to two or more cabinet enclosures mounted onto the skeletal framework, where the skeletal framework acts as a National Electric Code approved raceway system to support and route the set of cables to electrical equipment in the mounted cabinet enclosures;

wherein the integrated platform supports the weight of one or more cabinet enclosures mounted onto the skeletal framework that includes a main power supply housed in a first cabinet enclosure mounted to the skeletal framework, a backup power supply housed in a second cabinet enclosure mounted to the skeletal framework, and a power distribution center housed in a third cabinet enclosure mounted to the skeletal framework, where main and redundant power supply wiring is laid out and routed along the skeletal framework of the integrated platform integrated platform to and between the one or more enclosure mounted onto the skeletal framework, wherein the skeletal framework of the integrated platform has top and bottom rails run substantially parallel to each other with cross bars connecting the top and bottom rails to form the skeletal framework of the integrated platform, the skeletal framework has a top horizontal surface to which one or more of the cabinet enclosures mount to those rails making up the top horizontal surface of the skeletal framework, wherein the wiring is routed along the frame in a vertical space between the bottom horizontal surface of the skeletal frame and the top horizontal

surface of the skeletal frame, wherein the set of cables, the skeletal framework and the cabinet enclosures are fabricated in place prior to the integrated platform being installed and are installed as a monolithic pre-wired preassembled integrated platform.

2. The integrated platform of claim 1, where the integrated platform is deployed as a tested assembly, wherein at least two or more equipment components in the one or more cabinet enclosures mounted onto the skeletal framework potentially come from distinct manufactures and these equipment components have had their interoperability with the other pieces of equipment on the integrated platform tested and verified prior to deployment onsite and the wire cabling routed along the rails of the skeletal framework is periodically secured to that framework.

3. The integrated platform of claim 1, wherein a first cabinet enclosure is fastened and torqued to a topside of the top horizontal surface of the framework as well as to the underneath side of the top horizontal surface of the framework, and a spacing between the rails of the skeletal framework is set to have the cabinet enclosures span across rails and match up at the points where the enclosures fasten to the top horizontal surface of the framework.

4. The integrated platform of claim 1, wherein a weight of the integrated platform including the mounted cabinet enclosures and the skeletal framework is heavy enough by itself to be structurally sound and not require to be anchored to either a construction foundation or to a building's foundation in non-seismic zones.

5. The integrated platform of claim 1, where two or more of the pre-wired and pre-engineered integrated platforms for power supply and distribution are scaled and combined to supply electricity to a greater

amount of power loads, a first integrated platform has one or more electrical connections to couple with a second integrated platform and two or more fastening connections in the framework to modularly combine with the second integrated platform to supply the greater amount of electrical power.

6. The integrated platform of claim 1, wherein the top horizontal surface of the skeletal frame of the integrated platform is at a floor level of a building with the cabling routed anywhere along the skeletal framework being able to maintain an above ground open air current capacity rating due to the framework and cabling not being burry in earth or concrete, and the bottom horizontal surface of the skeletal frame is below the floor level of the building.

7. The integrated platform of claim 1, wherein the rails of the skeletal framework are separated by a gap close enough to provide mounting areas for the cabinet enclosures to mount to as well as close enough to give structural support to the entire integrated platform structure when put in place by a crane at the construction site, and two or more of the rails have holes in them at regular intervals to allow for easier mounting and fastening.

8. The integrated platform of claim 1, further comprising

a static switch cabinet mounted to the skeletal framework, wherein the main power supply housed in the first cabinet enclosure is a main uninterruptible power supply (UPS), the backup power supply housed in the second cabinet enclosure is a backup uninterruptible power supply, and the main and backup UPS are electrically connected in parallel and the static switch cabinet contains electrical equipment to ensure instantaneous switchover from one UPS supply to the other in the event of a power failure as

well as provide a bypass switch for power when both the main UPS and the backup UPS are not available.

9. The integrated platform of claim 8, wherein the main UPS and backup UPS enclosures have wiring routed along the rails of the skeletal framework to a fourth cabinet enclosure mounted to the framework that houses an emergency power source of at least one of the following 1) a battery powered by solar or chemical energy, or 2) a kinetic energy source.

10. The integrated platform of claim 8, wherein the main UPS enclosure and backup UPS enclosure have cabling routed along the rails of the skeletal frame to a fourth cabinet enclosure mounted to the frame that houses a UPS main switch board, and the UPS main switch board has one or more electrical connections to the power cables of a backup AC power generator, one or more electrical connections to the signal controls to the backup AC power generator to start up the AC generator in an emergency and monitor its status, and one or more electrical connections to the power cables of a main AC power generator including a step down transformer connected to the power lines of the Electrical Power Grid.

11. The integrated platform of claim 10, wherein the UPS main switch board further comprises:

one or more switches, including

a first switch to select either the main AC power source or the back up AC power source to supply electrical power to both the main and backup UPS,

a second switch when activated isolates the main and backup UPS to allow the main UPS to receive AC power from only the main or back up AC power source and similarly isolates the backup UPS to receive AC power from only the main or back up AC power source;

and cabling routed along the framework from the fourth cabinet enclosure to network interconnections coupling the UPS switchboard to a building's local or wide area network.

12. The integrated platform of claim 1, further comprising:

a fourth cabinet enclosure mounted to the skeletal frame that houses a system control cabinet that contains a system static switch and bypass control circuitry;

wherein the main power supply housed in a first cabinet enclosure is a main UPS, the backup power supply housed in the second cabinet enclosure is a backup UPS, and the main UPS enclosure and backup UPS enclosure have wire cabling routed along the rails of the skeletal framework to the system control cabinet,

wherein the bypass control circuitry in the system control cabinet contains a first and a second electrically parallel breakers to connect to the main UPS via the first breaker to the power distribution center and to connect to the backup UPS via the second breaker to the power distribution center, and the bypass control circuitry also contains a third electrical path electrically in parallel with the first and second UPS breakers, and the third electrical path is routed in wires along the rails of the skeletal frame directly to the third cabinet enclosure mounted to the skeletal framework that houses the power distribution center, where this third electrically parallel path with a third breaker allows selection of the external AC power source directly to the power distribution center and thus bypassing the main and back up UPS's while still supplying AC power to the power distribution center.

13. The integrated platform of claim 12, wherein the main ups and back ups enclosures have wiring routed along the rails of the skeletal frame to an emergency power source of at least one of the following 1) a battery powered by solar or chemical energy, or 2) a kinetic

energy source, and the power distribution center has an electrical connection to receive 480 Volts AC from an external AC power source.

14. The integrated platform of claim 12, wherein the cabinet enclosures for mounting to the frame are fastened and torqued to the frame with a nut and bolt through a hole in the framework.

15. A method of fabricating an integrated platform, comprising:

pre-wiring, pre-engineering and assembling the integrated platform for power supply and distribution;

routing a set of cables having wiring along a skeletal framework of the integrated platform;

supporting equipment on the skeletal framework of the integrated platform;

mounting two or more cabinet enclosures onto the skeletal framework, where the skeletal framework acts as a National Electric Code approved raceway system to support and route the set of cables to electrical equipment in the mounted cabinet enclosures; and

supporting the weight of one or more cabinet enclosures mounted onto the skeletal framework, where a main power supply is housed in a first cabinet enclosure mounted to the skeletal framework, a backup power supply is housed in a second cabinet enclosure mounted to the skeletal framework, and a power distribution center is housed in a third cabinet enclosure mounted to the skeletal framework, where main and redundant power supply wiring is laid out and routed along the skeletal framework of the integrated platform integrated platform to and between the one or more enclosure mounted onto the skeletal framework, wherein the skeletal framework of the integrated platform has top and bottom rails run substantially parallel to each other with cross bars connecting the

top and bottom rails to form the skeletal framework of the integrated platform, the skeletal framework has a top horizontal surface to which one or more of the cabinet enclosures mount to those rails making up the top horizontal surface of the skeletal framework, wherein the wiring is routed along the frame in a vertical space between the bottom horizontal surface of the skeletal frame and the top horizontal surface of the skeletal frame, wherein the set of cables, the skeletal framework and the cabinet enclosures are fabricated in place prior to the integrated platform being installed and are installed as a monolithic pre-wired preassembled integrated platform.

16. The method of claim 15, further comprising:

testing the equipment components in the one or more cabinet enclosures mounted onto the skeletal framework before the integrated platform is installed, wherein at least two or more potentially come from distinct manufactures and these equipment components have had their interoperability with the other pieces of equipment on the integrated platform tested and verified.

17. The method of claim 16, further comprising:

placing holes in the rails at regular intervals to allow the first cabinet enclosure to fasten and torque to a topside of the top horizontal surface of the framework as well as to the underneath side of the top horizontal surface of the framework; and

spacing a gap between the rails of the skeletal framework to have the cabinet enclosures span across rails and match up at the points where the enclosures fasten to the top horizontal surface of the framework.

18. The method of claim 17, further comprising:

making a weight of the integrated platform including the mounted cabinet enclosures and the skeletal framework heavy

enough by itself to be structurally sound and not require to be anchored to either a construction foundation or to a building's foundation in non-seismic zones.

19. The method of claim 15, further comprising:

mounting a fourth cabinet enclosure to the skeletal frame that houses a system control cabinet that contains a system static switch and bypass control circuitry;

wherein the main power supply housed in a first cabinet enclosure is a main UPS, the backup power supply housed in the second cabinet enclosure is a backup UPS, and the main UPS enclosure and backup UPS enclosure have wire cabling routed along the rails of the skeletal framework to the system control cabinet,

wherein the bypass control circuitry in the system control cabinet contains a first and a second electrically parallel breakers to connect to the main UPS via the first breaker to the power distribution center and to connect to the backup UPS via the second breaker to the power distribution center, and the bypass control circuitry also contains a third electrical path electrically in parallel with the first and second UPS breakers, and the third electrical path is routed in wires along the rails of the skeletal frame directly to the third cabinet enclosure mounted to the skeletal framework that houses the power distribution center, where this third electrically parallel path with a third breaker allows selection of the external AC power source directly to the power distribution center and thus bypassing the main and back up UPS's while still supplying AC power to the power distribution center.

20. The method of claim 15, further comprising

mounting a static switch cabinet mounted to the skeletal framework, wherein the main power supply housed in the first cabinet enclosure is a main uninterruptible power supply (UPS), the backup

power supply housed in the second cabinet enclosure is a backup uninterruptible power supply, and the main and backup UPS are electrically connected in parallel and the static switch cabinet contains electrical equipment to ensure instantaneous switchover from one UPS supply to the other in the event of a power failure as well as provide a bypass switch for power when both the main UPS and the backup UPS are not available.

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CLAIMS

1. A pre-wired and pre-engineered integrated platform for a power supply and distribution skid that is pre-assembled, scalable, and modular, comprising:

a skeletal framework of the integrated platform that acts as an equipment support structure as well as a cable routing support system;

a set of cables having wiring routed along the skeletal framework of the integrated platform going to two or more cabinet enclosures mounted onto the skeletal framework, where the skeletal framework acts as a National Electric Code approved raceway system to support and route the set of cables to electrical equipment in the mounted cabinet enclosures;

wherein the integrated platform supports the weight of two or more cabinet enclosures mounted onto the skeletal framework that includes a main power supply housed in a first cabinet enclosure mounted to the skeletal framework, a backup power supply housed in a second cabinet enclosure mounted to the skeletal framework, and a power distribution center housed in a third cabinet enclosure mounted to the skeletal framework, where main and redundant power supply wiring is laid out and routed along the skeletal framework of the integrated platform to and between the two or more enclosures mounted onto the skeletal framework, wherein the skeletal framework of the integrated platform has top and bottom longitudinal rails that run substantially parallel to each other with cross bars connecting the top and bottom rails, and lateral rails that connect to the longitudinal rails to form the skeletal framework of the integrated platform, the skeletal framework has a top horizontal surface to which two or more of the cabinet enclosures mount to the longitudinal and the lateral rails making up the top horizontal surface of the skeletal framework, wherein the wiring is routed along the skeletal framework in a vertical space between a bottom horizontal surface of the

skeletal framework and the top horizontal surface of the skeletal framework, wherein the set of cables, the skeletal framework and the cabinet enclosures are fabricated in place prior to the integrated platform being installed and are installed as a monolithic pre-wired preassembled integrated platform.

2. The integrated platform of claim 1, where the integrated platform is deployed as a tested assembly, wherein at least two or more equipment components in the one or more cabinet enclosures mounted onto the skeletal framework potentially come from distinct manufactures and these equipment components have had their interoperability with the other pieces of equipment on the integrated platform tested and verified prior to deployment onsite and the wire cabling routed along the rails of the skeletal framework is periodically secured to that framework.

3. The integrated platform of claim 1, wherein the first cabinet enclosure is fastened and torqued to a topside of the top horizontal surface of the framework as well as to an underneath side of the top horizontal surface of the framework, and a spacing between the rails of the skeletal framework is set to have the cabinet enclosures span across the rails and match up at points where the enclosures fasten to the top horizontal surface of the framework.

4. The integrated platform of claim 1, wherein the weight of the integrated platform including the mounted cabinet enclosures and the skeletal framework is heavy enough by itself to be structurally sound and not require to be anchored to either a construction foundation or to a building's foundation in non-seismic zones.

5. The integrated platform of claim 1, where two or more of the pre-wired and pre-engineered integrated platforms for the power supply and distribution skid are scaled and combined to supply electricity to a greater amount of power loads, a first integrated platform has one or more electrical connections to couple with a second integrated platform and two or more fastening connections in the framework to modularly combine with the second integrated platform to supply the greater amount of electrical power.

6. The integrated platform of claim 1, wherein the top horizontal surface of the skeletal frame of the integrated platform is at a floor level of a building with the wiring routed anywhere along the skeletal framework and being able to maintain an above ground open air current capacity rating due to the framework and cabling not being buried in earth or concrete, and the bottom horizontal surface of the skeletal frame is below the floor level of the building.

7. The integrated platform of claim 1, wherein the rails of the skeletal framework are separated by a gap close enough to provide mounting areas for the cabinet enclosures to mount to as well as close enough to give structural support to the entire integrated platform structure when put in place by a crane at a construction site, and two or more of the rails have holes in them at regular intervals to allow for easier mounting and fastening.

8. The integrated platform of claim 1, further comprising

a static switch cabinet mounted to the skeletal framework, wherein the main power supply housed in the first cabinet enclosure is a main uninterruptible power supply (UPS), the backup power supply housed in the second cabinet enclosure is a

backup uninterruptible power supply, and the main and backup UPS are electrically connected in parallel and the static switch cabinet contains electrical equipment to ensure instantaneous switchover from one UPS supply to the other in the event of a power failure as well as provide a bypass switch for power when both the main UPS and the backup UPS are not available.

9. The integrated platform of claim 8, wherein the main UPS and backup UPS enclosures have wiring routed along the rails of the skeletal framework to a fourth cabinet enclosure mounted to the framework that houses an emergency power source of at least one of the following 1) a battery powered by solar or chemical energy, or 2) a kinetic energy source.

10. The integrated platform of claim 8, wherein the main UPS enclosure and backup UPS enclosure have their wiring routed along the rails of the skeletal frame to a fourth cabinet enclosure mounted to the frame that houses a UPS main switch board, and the UPS main switch board has one or more electrical connections to the power cables of a backup AC power generator, one or more electrical connections to the signal controls to the backup AC power generator to start up the AC generator in an emergency and monitor its status, and one or more electrical connections to the power cables of a main AC power generator including a step down transformer connected to the power lines of an Electrical Power Grid.

11. The integrated platform of claim 10, wherein the UPS main switch board further comprises:

one or more switches, including

a first switch to select either a main AC power source or the backup AC power source to supply electrical power to both the main and backup UPS,

a second switch when activated isolates the main and the backup UPS to allow the main UPS to receive AC power from only the main or the backup AC power source and similarly isolates the backup UPS to receive the AC power from only the main or back up AC power source;

and cabling routed along the framework from the fourth cabinet enclosure to network interconnections coupling the UPS switchboard to a building's local or wide area network.

12. The integrated platform of claim 1, further comprising:

a fourth cabinet enclosure mounted to the skeletal frame that houses a system control cabinet that contains a system static switch and bypass control circuitry;

wherein the main power supply housed in the first cabinet enclosure is a main UPS, the backup power supply housed in the second cabinet enclosure is a backup UPS, and the main UPS enclosure and backup UPS enclosure have wire cabling routed along the rails of the skeletal framework to the system control cabinet,

wherein the bypass control circuitry in the system control cabinet contains a first and a second electrically parallel breakers to connect to the main UPS via the first breaker to the power distribution center and to connect to the backup UPS via the second breaker to the power distribution center, and the bypass control circuitry also contains a third electrical path electrically in parallel with the first and second UPS breakers, and the third electrical path is routed in wires along the rails of the skeletal frame directly to the third cabinet enclosure mounted to the skeletal framework that houses the power distribution center, where this third electrically parallel path with a

third breaker allows selection of the external AC power source directly to the power distribution center and thus bypassing the main and backup UPS's while still supplying AC power to the power distribution center.

13. The integrated platform of claim 12, wherein the main UPS and backup UPS enclosures have wiring routed along the rails of the skeletal frame to an emergency power source of at least one of the following 1) a battery powered by solar or chemical energy, or 2) a kinetic energy source, and the power distribution center has an electrical connection to receive 480 Volts AC from an external AC power source.

14. The integrated platform of claim 12, wherein the cabinet enclosures for mounting to the frame are fastened and torqued to the frame with a nut and a bolt through a hole in the framework.

15. A method of fabricating an integrated platform, comprising:

pre-wiring, pre-engineering and assembling the integrated platform for power supply and distribution;

routing a set of cables having wiring along a skeletal framework of the integrated platform;

supporting equipment on the skeletal framework of the integrated platform;

mounting two or more cabinet enclosures onto the skeletal framework, where the skeletal framework acts as a National Electric Code approved raceway system to support and route the set of cables to electrical equipment in the mounted cabinet enclosures; and

supporting the weight of the two or more cabinet enclosures mounted onto the skeletal framework, where a main power supply is housed in a first cabinet enclosure mounted to the skeletal framework, a backup power supply is housed in a second cabinet enclosure mounted to the skeletal framework, and a power distribution center is housed in a third cabinet enclosure mounted to the skeletal framework, where main and redundant power supply wiring is laid out and routed along the skeletal framework of the integrated platform to and between the two or more enclosures mounted onto the skeletal framework, wherein the skeletal framework of the integrated platform has top and bottom longitudinal rails run substantially parallel to each other with cross bars connecting the top and bottom rails, and lateral rails connecting to the longitudinal rails to form the skeletal framework of the integrated platform, the skeletal framework has a top horizontal surface to which one or more of the cabinet enclosures mount to the longitudinal and lateral rails making up the top horizontal surface of the skeletal framework, wherein the wiring is routed along the skeletal framework in a vertical space between a bottom horizontal surface of the skeletal framework and the top horizontal surface of the skeletal framework, wherein the set of cables, the skeletal framework and the cabinet enclosures are fabricated in place prior to the integrated platform being installed and are installed as a monolithic pre-wired preassembled integrated platform.

16. The method of claim 15, further comprising:

testing the equipment components in the one or more cabinet enclosures mounted onto the skeletal framework before the integrated platform is installed, wherein at least two or more potentially come from distinct manufactures and these equipment components have had their interoperability with the other pieces of equipment on the integrated platform tested and verified.

17. The method of claim 16, further comprising:

placing holes in the rails at regular intervals to allow the first cabinet enclosure to fasten and torque to a topside of the top horizontal surface of the framework as well as to an underneath side of the top horizontal surface of the framework; and

spacing a gap between the rails of the skeletal framework to have the cabinet enclosures span across rails and match up at points where the enclosures fasten to the top horizontal surface of the framework.

18. The method of claim 17, further comprising:

making the weight of the integrated platform including the mounted cabinet enclosures and the skeletal framework heavy enough by itself to be structurally sound and not require to be anchored to either a construction foundation or to a building's foundation in non-seismic zones.

19. The method of claim 15, further comprising:

mounting a fourth cabinet enclosure to the skeletal frame that houses a system control cabinet that contains a system static switch and bypass control circuitry;

wherein the main power supply housed in the first cabinet enclosure is a main UPS, the backup power supply housed in the second cabinet enclosure is a backup UPS, and the main UPS enclosure and backup UPS enclosure have the wiring routed along the rails of the skeletal framework to the system control cabinet,

wherein the bypass control circuitry in the system control cabinet contains a first and a second electrically parallel breakers to connect to the main UPS via the first breaker to the power distribution center and to connect to the backup UPS via the

second breaker to the power distribution center, and the bypass control circuitry also contains a third electrical path electrically in parallel with the first and second UPS breakers, and the third electrical path is routed in the wiring along the rails of the skeletal frame directly to the third cabinet enclosure mounted to the skeletal framework that houses the power distribution center, where this third electrically parallel path with a third breaker allows selection of an external AC power source directly to the power distribution center and thus bypassing the main and the backup UPS's while still supplying AC power to the power distribution center.

20. The method of claim 15, further comprising

mounting a static switch cabinet mounted to the skeletal framework, wherein the main power supply housed in the first cabinet enclosure is a main uninterruptible power supply (UPS), the backup power supply housed in the second cabinet enclosure is a backup uninterruptible power supply, and the main and the backup UPS are electrically connected in parallel and the static switch cabinet contains electrical equipment to ensure instantaneous switchover from one UPS supply to the other in the event of a power failure as well as provide a bypass switch for power when both the main UPS and the backup UPS are not available.