

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA SOLUTIONS, INC.,
Petitioner,

v.

STA GROUP LLC,
Patent Owner.

Case IPR2023-01292
Patent 7,324,802 B2

**DECLARATION OF DR. ROBERT AKL
IN SUPPORT OF PATENT OWNER'S RESPONSE**

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I, Robert Akl, D.Sc. of Dallas, Texas, hereby state and declare:

I. INTRODUCTION

1. I am over the age of 18 and am competent to make this Declaration. I have personal knowledge, or have developed knowledge, of these technologies based upon my education, training, and/or experience, of the matters set forth herein. If called upon to do so, I would testify competently thereto.

2. I have been retained by counsel for Patent Owner STA Group LLC (“STA”) in the above matter. I am submitting this Declaration in response to the Petition for *Inter Partes* Review for U.S. Patent 7,324,802 B2 (“’802 Patent”) and in rebuttal to the declaration of Mr. Williams. Specifically, I have been asked to consider the validity of claims 1-21 of the ’802 Patent (the “Challenged Claims”) in view of prior art, obviousness considerations, and understanding of a person of ordinary skill in the art (“POSITA”) at the time of the invention as it relates to the ’802 Patent.

II. BACKGROUND AND QUALIFICATIONS

3. I am an expert in the field of telecommunication systems. I have studied, taught, practiced, and researched this field for over 30 years. I have summarized in this section my educational background, work experience, and other relevant qualifications. Exhibit 2008 is a true and correct copy of my *curriculum vitae* describing my background and experience.

4. I earned two Bachelor of Science degrees in Electrical Engineering and Computer Science *summa cum laude* with a grade point average of 4.0/4.0 and a ranking of first in my undergraduate class from Washington University in St. Louis in 1994. In 1996, I earned my Master of Science degree in Electrical Engineering from Washington University in St. Louis with a grade point average of 4.0/4.0. I earned my Doctor of Science in Electrical Engineering from Washington University in St. Louis in 2000, again with a grade point average of 4.0/4.0, with my dissertation being on “Cell Design to Maximize Capacity in Cellular Code Division Multiple Access (CDMA) Networks.”

5. While a graduate student, from 1997 through 1999, I worked at MinMax Corporation in St. Louis, where I designed software packages that provided tools to flexibly allocate capacity in a CDMA communications network and maximize the number of subscribers. I also validated the hardware architecture for an Asynchronous Transfer Mode (ATM) switch capable of channel group switching, as well as performed logical and timing simulations, and developed the hardware architecture for the ATM switch. I also worked with Teleware Corporation in Seoul, South Korea, where I designed and developed algorithms that were commercially deployed in a software package suite for analyzing the capacity in a CDMA network implementing the IS-95 standard to maximize the number of subscribers.

6. After obtaining my Doctor of Science degree, I worked as a Senior

Systems Engineer at Comspace Corporation from October of 2000 to December of 2001. At Comspace, I designed and developed advanced data coding and modulation methods for improving reliability and increasing the available data rates for cellular communications. I coded and simulated different encoding schemes (including Turbo coding, Viterbi decoding, trellis coded modulation, and Reed-Muller codes) and modulation techniques using amplitude and phase characteristics and multi-level star constellations. This work further entailed the optimization of soft decision parameters and interleavers for additive white Gaussian and Rayleigh faded channels. In addition, I also extended the control and trunking of Logic Trunked Radio (LTR) to include one-to-one and one-to-many voice and data messaging.

7. In January of 2002, I joined the faculty of the University of New Orleans in Louisiana as an Assistant Professor in the Department of Electrical Engineering. While in this position, I designed and taught two new courses called “Computer Systems Design I and II.” I also developed a Computer Engineering Curriculum with a strong hardware-design emphasis, formed a wireless research group, and advised graduate and undergraduate students.

8. In September of 2002, I received an appointment as an Assistant Professor in the Department of Computer Science and Engineering at the University of North Texas (UNT), in Denton, Texas. In May of 2008, I earned tenure and was promoted to the rank of Associate Professor. As a faculty member, I have taught

courses and directed research in networking and telecommunications, including 2G, 3G, 4G, 5G, CDMA/WCDMA, GPS, GSM, UMTS, LTE, ad-hoc networks, antenna design and beamforming, Bluetooth, call admission control, channel coding, channel estimation, communication interfaces and standards, compression, computer architecture, MIMO systems, multi-cell network optimization, network security, packet-networks, telephony, VoIP, Wi-Fi (802.11), 802.15.4, Zigbee, wireless communication, and wireless sensors. Between January of 2015 and August of 2022, I was appointed Associate Chair of Graduate Studies in the Department of Computer Science and Engineering. In May of 2023, I was promoted to the rank of Professor.

9. I am also the director of the Wireless Sensor Lab (“WiSL”) at UNT. I am a member of the Center for Information and Cyber Security (CICS). It is the only program in the U.S. to be federally certified by the National Security Agency as a Center of Academic Excellence in Information Assurance Education and Research *and* Cyber Defense Research. I was also a member of the NSF Net-Centric & Cloud Software & Systems: Industry-University Cooperative Research Center (I/UCRC). Several of my research projects are funded by industry and the National Science Foundation and published in *IEEE* conference proceedings and journals.

10. In addition to advising and mentoring students at UNT, I was asked to join the faculty of the University of Arkansas in Little Rock as an Adjunct Assistant Professor from 2004 to 2008 in order to supervise the research of two Ph.D. graduate

students who were doing research in wireless communications. At UNT, I have advised and supervised more than 250 undergraduate and graduate students, several of whom received a master's or doctorate degree under my guidance.

11. Between 2005 and 2017, I have received over a million dollars in funding from the State of Texas, Texas Higher Education Coordination Board, the National Science Foundation, and industry to design and conduct robotics, video, and mobile gaming (*e.g.*, Xbox, PC, mobile device) programming summer camps for middle and high school students at UNT. By using video and mobile gaming as the backdrop, participants have learned coding and programming principles and developed an understanding of the role of physics and mathematics in video game design.

12. Between 2011 and 2013, I was director of the Bio-Com Project that was funded by Raytheon. The project evaluated the feasibility study using Surface Electromyography (EMG) and bend resistive sensors, which are attached to each of the five fingers of the hand, for hand gesture recognition. This approach is sometimes known as a “data glove.” A prototype was developed and demonstrated at Raytheon, to help soldiers in close-combat situations communicate with hand gestures and hand signals that would be recognized and transmitted to other soldiers’ Head Up Display (HUD) without breaking radio silence.

13. In addition to my academic work, I have remained active in the

communication industry through my consulting work. In 2002, I consulted for Input/Output Inc. and designed and implemented algorithms for optimizing the frequency selection process used by sonar for scanning the bottom of the ocean. In 2004, I worked with Allegiant Integrated Solutions in Ft. Worth, Texas to design and develop an integrated set of tools for fast deployment of wireless networks, using the 802.11 standard. Among other features, these tools optimize the placement of Access Points and determine their respective channel allocations to minimize interference and maximize capacity. I also assisted the Collin County Sheriff's Office (Texas) in a double homicide investigation, analyzing cellular record data to determine user location.

14. I have authored and co-authored over 100 journal publications, conference proceedings, technical papers, book chapters, and technical presentations in a broad array of communications-related technologies, including networking and wireless communication. I have also developed and taught over 100 courses related to communications and computer systems, including several courses on signals and systems, 4G/LTE and 5G/NR, OFDM, VoIP, Wi-Fi (802.11), 802.15.4, Zigbee, wireless communication, antenna design and beamforming, communications systems, communication interfaces and standards, channel estimation, location management, sensor networks, source coding and compression, network security, computer systems design, game and app design, and computer architecture. These

courses have included introductory courses on communication networks and signals and systems, as well as more advanced courses on wireless communications. A complete list of my publications and the courses I have developed and/or taught is also contained in my *curriculum vitae*.

15. My professional affiliations include services in various professional organizations and serving as a reviewer for a number of technical publications, journals, and conferences. I have also received a number of awards and recognitions, including the IEEE Professionalism Award (2008), UNT College of Engineering Outstanding Teacher Award (2008), and Tech Titan of the Future (2010) among others, which are listed in my *curriculum vitae*.

16. I have also served as an expert in certain legal proceedings. A list of cases in which I have testified at trial, hearing, or by deposition (including those during the past four years) is provided in my *curriculum vitae*. Over the years, I have been retained by both patent owners and petitioners, as well as plaintiffs and defendants.

17. I am being compensated for my work in this case at my standard rate. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results of my study, the substance of my opinions, or the outcome of any proceeding involving the challenged claims. I have no financial interest in the outcome of this matter.

III. MATERIALS RELIED UPON IN FORMING MY OPINIONS

18. In preparing this Declaration, I have reviewed the '802 Patent and its prosecution history, and the Petition for IPR for the '802 Patent, including accompanying exhibits and the declaration of Mr. David H. Williams in support of the Petition. I have also reviewed Patent Owner's Preliminary Reply and the other documents and materials cited herein including the deposition transcript of Mr. Williams and Claim Construction charts from the District Court Matter. When quoting from these materials, all emphasis is added unless otherwise noted.

19. My opinions are also based upon my education, training, research, knowledge, and personal and professional experience.

IV. LEGAL STANDARDS FOR PATENTABILITY

20. I am not an attorney and I offer no opinion on the law itself. My understanding of the relevant legal principles in this section is based on information provided to me by counsel.

A. Claim Construction

21. I understand that claim terms are typically given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, at the time of the alleged invention, which I was asked to assume is the January 2004 timeframe. In considering the meaning of the claims, I also understand that one must consider the claim language, specification, prosecution history, and

the knowledge of a person of ordinary skill in the art (“POSITA”) at the relevant time. I have followed these principles in my analysis.

22. I have been asked to apply the plain and ordinary meaning of the claim terms consistent with the specification.

B. Anticipation

23. I have been informed that a patent claim is invalid as “anticipated” if each and every limitation of the claim is described in a single publication or patent that predates the claimed invention. I understand that, in patent law, these prior publications or patents are called “prior art.” I understand that in order to anticipate a claim, a prior art reference must do more than merely disclose each element of the claim, but rather the prior art reference must disclose all of the elements of the claimed invention arranged as is recited by the claim. I also understand that for a prior art reference to anticipate a claim of a patent, the reference must enable one of ordinary skill in the art at the time of the invention to practice the claim without undue experimentation.

24. I have been informed that a claim can be inherently anticipated if the prior art necessarily functions in accordance with or includes the claim limitations. I understand that inherency cannot be established by mere probabilities or possibilities.

C. Obviousness

25. I have been informed by counsel that a claim may be invalid if the invention recited in the claim would have been obvious to one of ordinary skill in the art at the time the invention was made in light of the prior art. I understand for a claim to be found obvious, every claim limitation must be found present in the combination of the prior art references before the obviousness analysis proceeds.

26. In considering whether a claim is obvious, I understand that one must consider (a) the level of skill in the art at the time of the claimed invention, (b) the scope and content of the prior art, (c) any differences between the prior art and the claims of the patent-in-suit, and (d) any “secondary factors” tending to show non-obviousness of the claimed invention, including commercial success, long-felt but unresolved need, failure of others, copying, praise by others, unexpected results, and simultaneous invention by others.

27. I understand that a claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. I also understand that obviousness should not be analyzed using the benefit of hindsight. Instead, it must be analyzed from the standpoint of what was known and understood by a POSITA at the time of the claimed invention. I further understand demonstrating whether making a modification to a reference or whether combining multiple references would have been obvious requires providing a reason

for why a POSITA would modify the reference or combine multiple references, and that reason must be supported with some rationale underpinning. Merely pointing out that two references are similar or in the same field of endeavor is not sufficient.

28. I understand that if a combination of two or more prior art references is used to render a claimed invention obvious, there must be a reasonable expectation of success in making or practicing the claimed invention based on such combination. I understand the combination cannot modify a prior art reference such that it would render the reference unsatisfactory for its intended purpose.

29. I understand that it is impermissible to use the patent as a template (and reason) for combining prior art references as that would be applying hindsight. I understand that a POSITA would have to be motivated to combine references to create the combination of features required by the claims of the patent.

V. LEVEL OF ORDINARY SKILL IN THE ART

30. In rendering the opinions set forth in this Declaration, I was asked to consider the patent claims and the prior art through the eyes of a person of ordinary skill in the art (“POSITA”). The “art” is the field of technology to which a patent is related. In my Declaration, I use the term POSITA and skilled person to refer to the same hypothetical person of ordinary skill in the art. I considered factors such as the educational level and years of experience of those working in the pertinent art; the types of problems encountered in the art; the teachings of the prior art; patents and

publications of other persons or companies; and the sophistication of the technology. I understand that a POSITA is not a specific real individual, but rather a hypothetical individual having the qualities reflected by the factors discussed above.

31. I understand that Petitioner has proposed the following set of qualifications: “at least a bachelor’s degree in computer science, electrical engineering, or a similar field, and would have had approximately two years industry experience in networking or communication systems. Ex. 1002, ¶¶55-58. A person with less or different education but more relevant practical experience, or vice versa, may also meet this standard.” Petition at 3.

32. I understand that Patent Owner does not dispute the proposal provided by Petitioner as to who would qualify as a POSITA. I am qualified to provide opinions concerning what a POSITA would have known and understood, and my analysis and conclusions herein are from the perspective of a POSITA under Petitioner’s set of qualifications.

VI. OVERVIEW OF THE ’802 PATENT

33. I have reviewed the ’802 Patent. It is my opinion that the ’802 Patent is patentable, valid, and not anticipated or rendered obvious in view of the prior art references presented by Petitioner.

34. The ’802 Patent issued on January 29, 2008. Ex. 1001, Cover. The invention of the ’802 Patent relates to systems and methods for the management of

messages received simultaneously on different channels in a communication system so that when incoming messages overlap in time, the messages are prioritized and played in order of priority. *Id.*, Abstract. When a message is received on one channel, the method plays the higher priority of the communication while simultaneously saving the lower priority message to be played at another time. *Id.*, 1:62-2:9. The described method is exemplified in Fig. 3:

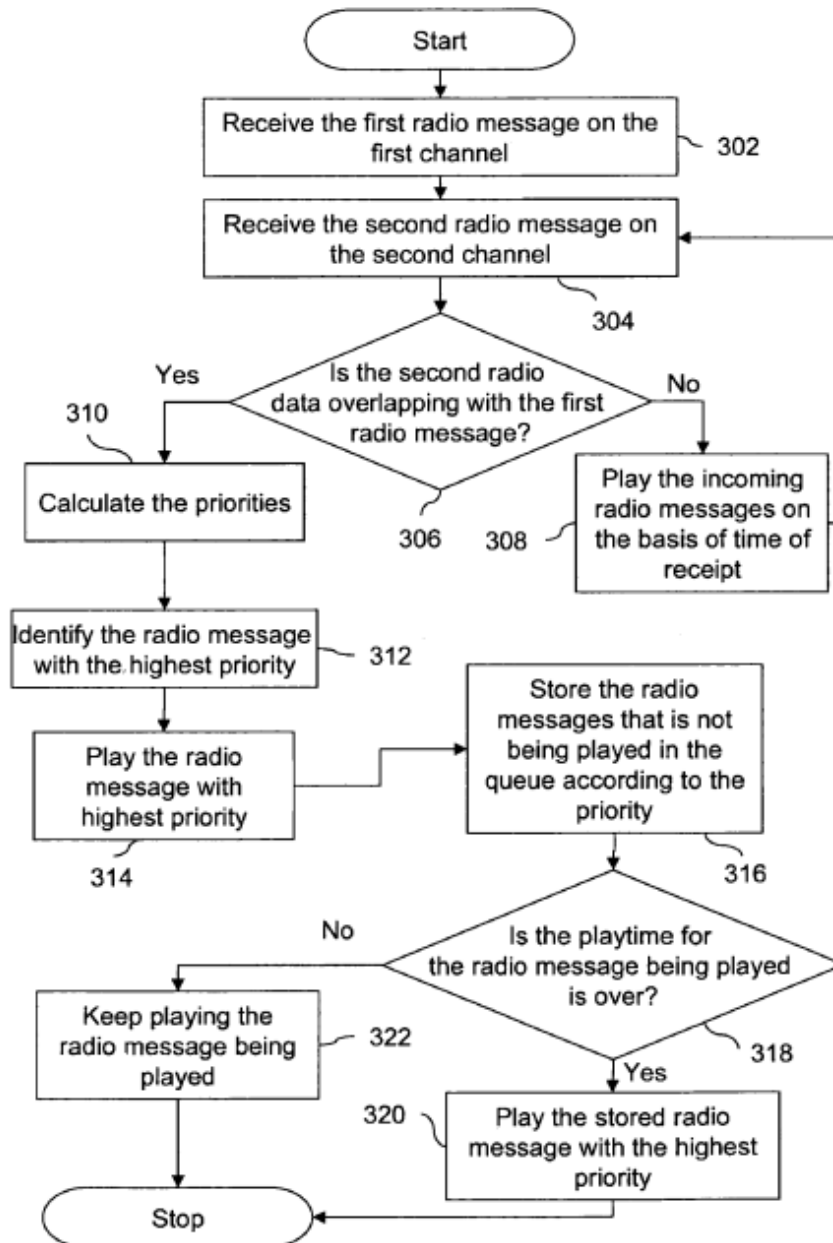


FIG. 3

Ex. 1001, Fig. 3.

35. As noted in the '802 Patent, emergency communication systems support a plurality of communication channels, each channel being dedicated to a specific entity, leading to problems arising when an operator in an emergency

communication system receives a number of messages on different channels at the same time. Ex. 1001, 1:12-25, 1:46-49. “The receipt of multiple radio messages at one time creates confusion for an operator who needs to reply/act on each incoming radio message.” *Id.*, 1:25-27. The operator needs to act on each incoming message, but cannot when overlapping messages interfere with one another, resulting in garbled or missed communications. *Id.*, 1:25-36, 6:53-56. Conventional techniques of managing overlapping messages often lead operators to hear multiple messages at once or to lose high-priority messages mistakenly. *Id.*, 1:27-41.

36. To solve these shortcomings, the invention claimed in the ’802 Patent is directed to systems and methods that “provide for storing and replaying audio or other emergency radio communication information so that information that would be obscured or otherwise unheard can be made intelligible to a listener.” Ex. 1001, 1:46-49. The claimed methods recite: receiving messages on separate channels dedicated to different entities; determining priorities for each message based on pre-defined parameter(s); determining which message to store and subsequently play based on assigned priorities; playing the message with the higher priority; and storing, and then playing, the stored messages in order of their priority. The ’802 Patent has twenty-one claims, of which claims 1, 11, 13, 14, 17, 18, and 19 are the only independent claims.

37. The Petition challenges all twenty-one claims—the Challenged

Claims—under three total grounds, Grounds 1-3, as detailed below:

Ground	Basis for Challenge
1	Claims 1-21 are obvious over Ohel
2	Claims 1-7 and 11-21 are obvious over Nigawara
3	Claims 3 and 8-10 are obvious over Nigawara in view of Doolin

VII. CLAIM CONSTRUCTION

38. I have been informed by counsel that the Petition was filed after November 13, 2018, and, as such, the proper claim construction standard to be applied is articulated in *Phillips v. AWH Corp.* Therefore, these claims should be given their ordinary and customary meaning [and] that the ordinary and customary meaning of a claim term is the meaning that the term would have to a POSITA in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.

39. I understand that in the parallel district court litigation, the parties agreed on certain constructions, and that the district court has adopted these agreed constructions:

Term	Agreed Construction
Order of Steps (Claim 1)	The “receiving” and “determining” steps must occur before the “storing at least one message...” step, and the “storing at least one message...” step must occur before the “playing the stored message” step.

Ex. 2001, 12.

Term	Agreed Construction
Order of steps '802 Patent: Claim 1	The steps of the claim must be performed in the following order: (1) the receiving steps [1A] and [1B] may be performed in any order; (2) the “determining one or more priorities” step [1C] must be performed after the receiving steps [1A] and [1B]; (3) the “determining which message” step [1D] must be performed after the “determining one or more priorities” step [1C]; (4) the “determining which message” step [1D] must be performed before the “playing the message having a higher priority” step [1E] and the “storing at least one message” step [1F]; and (5) the “playing the message having a higher priority” step [1E] and the “storing at least one message” step [1F] may be performed in any order; and (6) the “playing the stored message” step [1G] must be performed after the “storing at least one message” step [1F] and the “playing the message having a higher priority” step [1E].

Ex. 2004, 15-16.

VIII. OVERVIEW OF THE CITED PRIOR ART

40. Here, I provide very brief overviews of the prior art references relied on in the Petition and Mr. Williams. I discuss these references in more detail in connection with the claim limitations below.

A. U.S. Patent Publication No. 2004/0117859 (“Ohel”)

41. U.S. Patent Publication No. 2004/0117859 (“Ohel”) has a title “Multiple Channel Data Recorder and Method for Recording Data on Multiple Channels.” Ex. 1004, Cover. Ohel was filed Dec. 16, 2002, published June 17, 2004, and was later abandoned. *Id.* Ohel is directed to “a multiple channel data recorder and method for recording data on multiple channels.” *Id.*, [0002].

42. Ohel’s disclosure is “designed to ‘prevent loss of communications during overtalk,’—*i.e.*, the communication lost when a police officer’s transmission is interrupted and cut off by a police dispatcher’s transmission.” Petition, 7 (citing Ex. 1004 at [0002], [0005], [0009]). Specifically, as shown below, if a user begins to transmit a message (200, 400) but is already receiving another transmission (300) or is interrupted by a superior transmission (500), one transmission continues and the other transmission is recorded (700, 700a) and made available at another time (1000).

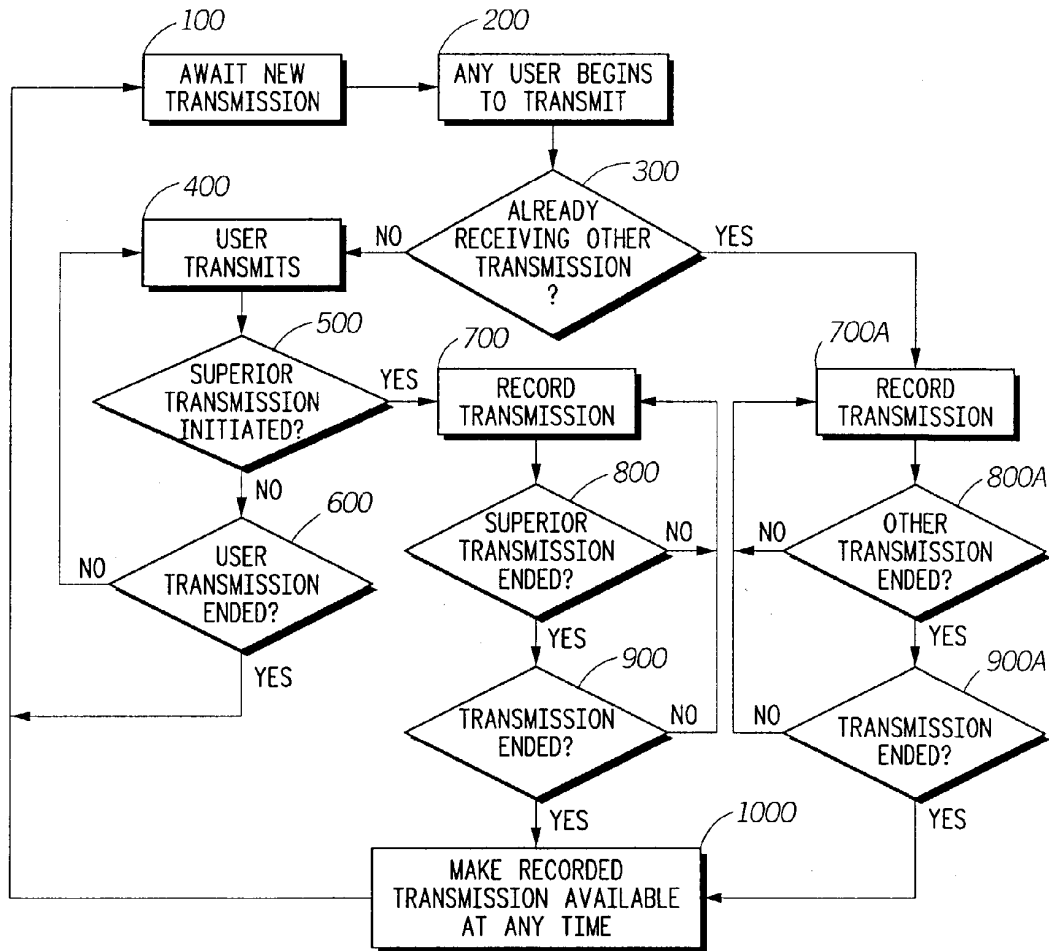


FIG. 1

Ex. 1004, Fig. 1.

B. U.S. Patent No. 4,914,705 (“Nigawara”)

43. U.S. Patent No. 4,914,705 (“Nigawara”) has a title “Voice Message Announcing Method and System for Plant.” Ex. 1007, Cover. Nigawara was filed September 3, 1987 and issued April 3, 1990. *Id.*

44. Nigawara is directed to systems and methods for announcing changes

in the operating condition of a plant (e.g., a thermal power plant) by way of automatic voice messages. Ex. 1007, 1:40–48. Nigawara describes systems and methods sequentially announcing voice messages pertaining to different operating conditions to avoid the possibility of intermixing the messages with each other. *Id.*, 1:44–1:48. Essentially, a plurality of independent voice message announcing devices generate a plurality of voice messages, which are announced sequentially based on the priority of the voice messages. *Id.*, 1:50–1:55.

45. In an illustrative example, a plant operating condition identification unit (1) identifies that an announcement of an operating condition related voice message is required. *Id.*, 2:59–2:63; Fig. 1. A voice message signal generating unit (2) then generates the associated voice message signal. *Id.*, 2:66–3:6; Fig. 1. The voice message signal is sent to a message announcing order selection unit (3), where the voice message signals are stored in a voice message signal memory (10). *Id.*, 3:22–25, 3:68–4:2, Fig. 1. The voice message signals are also sent, along with plant operation mode information signals, to a message announcing order determination unit (11). *Id.*, 4:3–5, Fig. 2. The message announcing order determination unit (11) then determines the priority order of the messages. *Id.*, 4:13–15, Fig. 2. A voice message is then selected by a message signal selection unit (101) based on the order of priority determined by the message announcing order determination unit (11) and sent to the message output unit (102), which announces the message through

speakers (4). *Id.*, 4:16–21, Fig. 2. After a message has been announced, the message output unit (102) communicates with the message selection unit (101) to permit the transmission of the next message. *Id.*, 4:20–24, Fig. 2. In response to the permission received from the message output unit (102), the message signal selection unit (101) selects the next highest priority message and sends it to the message output unit (102) and the cycle between the message signal selection unit (101) and the message output unit (102) repeats until the messages are all announced. *Id.*, 4:25–30, Fig. 2. Nigawara further describes that, in instances in which an emergency voice message with a higher priority is received by the message output unit (102) while the message output unit (102) is outputting a message, the lower priority message may be interrupted, and the emergency signal may be announced. *Id.*, 4:30–38, Fig. 2.

IX. GROUND 1: CLAIMS 1-21 ARE NOT OBVIOUS OVER OHEL

A. Claim 1

46. I disagree with the Petition’s and Mr. Williams’ assertion that Ohel’s dispatcher is one of the claimed entities, so elements 1[a] and 1[b] are not disclosed or taught by Ohel. Specifically, in my opinion, Ohel’s dispatcher is not an “entity” of the ’802 Patent, so the Petition fails to establish two different entities as claimed. Although my analysis below references elements of claim 1, the analysis also applies to the other independent claims which include the same or similar elements.

47. I will lay out several important differences between the ’802 Patent and

Ohel, including that system hardware is configured differently in terms of where the novel activity takes place, and also that the problems addressed in the '802 Patent and Ohel differ significantly, followed by specific analysis of the actual assertions in the Petition. To highlight these differences, I will dive deeper into both inventions along with pertinent background information to put the teachings of Ohel in the proper context. First, I address Ohel's system, then turn to the '802 Patent's system, highlighting key differences which establish that Ohel's dispatcher is not an entity as claimed, and noting various points which seem to have bearing on whether or how a POSITA would find modification of Ohel obvious to arrive at the claims of the '802 Patent.

48. More particularly, these differences include placement of the hardware performing the recording of messages in each system. In Ohel, the recording hardware is in the user radio, while in the '802 Patent, it is at the operator. Also, Ohel addresses the problem users on a multi-party communication channel face when dispatcher overtalk interrupts. On the other hand, the '802 Patent addresses problems the operator faces when messages from different multi-party channels are received. As explained below, these distinctions make clear that Ohel's dispatcher is not an entity as claimed in the '802 Patent.

49. As discussed above, Ohel is directed to a multiple channel data recorder and method for recording data on multiple channels." Ex. 1004, [0002]. This

multiple channel data recorder is used with a multi-party communication channel where parties with mobile or portable communication devices may communicate on any communication network, for example, using the APCO standard or TETRA standard. Ex. 1004, [0004], [0006], [0007]. Using a multi-party communication channel enables a group of multiple parties (*i.e.*, talkgroup or talk-around group) to talk to each other in an ordered fashion that avoids crosstalk where parties speak over each other, explaining that “a first party can talk to a second party and, while the first party remains talking, all other parties on that communication channel are muted until the first party finishes the message.” Ex. 1004, [0004]. This type of communication is generally referred to as a half-duplex system, and is frequently used for emergency communications, such as police or fire department communications.

50. Ohel describes that its multi-party communication channel may be a “dispatch channel” used by police, stating “police are communicating with one another, when a first officer is talking over the dispatch channel, all other officers tuned into the channel can hear the first officer and cannot talk until the first officer completes communication.” Ex. 1004, [0004]-[0005]. In such a system, a feature called “overtalk” allows a dispatcher to cut off any officer that is already speaking (often referred to as having “the floor” or “floor control”). Ex. 1004, [0005]. Ohel describes that “[a] user is a police officer” and the dispatcher is a “superior party”

with the ability to overtalk on the multi-party communication channel. Ex. 1004, [0005], [0068].

51. The dispatcher uses overtalk to cut off and speak over an officer with an urgent message for the unit or to address contention on the multi-party communication channel. Ex. 1004, [0005]. For example, if an officer unknowingly has the floor and is transmitting dead air to the rest of the unit, who cannot notify the officer of his ongoing transmission due to the half-duplex configuration of the multi-party communication channel, the dispatcher may notify the officer to resolve the issue using overtalk. Ohel's invention intends to mitigate the effect of overtalk on the multi-party communication channel, when a dispatcher's overtalk cuts off any officer's message, by recording any incoming messages on the multi-party communication channel with the multi-channel recorder in the officer's communication unit 1 shown in Fig. 2, to "prevent loss of communications during overtalk." Ex. 1004, [0005], [0009], [0070]. The Petition agrees this is the purpose of Ohel, stating "Ohel provides 'a multiple channel data recorder and method for recording data on multiple channels' designed to 'prevent loss of communications during overtalk'—*i.e.*, the communication lost when a police officer's transmission is interrupted and cut off by a police dispatcher's transmission." Petition, 7, *citing* Ex. 1004, [0002], [0005], [0009].

52. One critical distinction between Ohel and the '802 Patent is that

the '802 Patent is directed to managing communications in an environment with **multiple** multi-party communication channels, while Ohel describes a system mitigating the effect of overtalk on a **single** multi-party communication channel (*i.e.*, the dispatch channel) by recording messages using the officers' communication units 1. Ex. 1001, 1:9-21; Ex. 1004, [0005], [0009], [0042], [0048], [0070], Figs 1 and 2. The Petition and Mr. Williams **ignore** this critical distinction between a **single** multi-party communication channel and **multiple** multi-party communication channels, apparently unaware of the technological realities of hardware used to implement multi-party communication channels in emergency communication systems at the time of filing of the '802 Patent.

53. In these communication systems, as noted in Ohel, multi-party communication occurs over a **single** multi-party communication channel. Ex. 1004, [0004]. One reason that multi-party communication occurs on **one** multi-party communication channel rather than **multiple** multi-party communication channels is structural in nature, specifically, the **hardware** in users' radios is not capable of the processing required to make communicating on **multiple** different multi-party communication channels workable. Typical user hardware for multi-party communication (*e.g.*, handheld radio) provides for straightforward operation and only allows for simple floor control mechanisms and standard overtalk, as explained in Ohel and above. Generally, the purchasers of these communication systems desire

lower cost user equipment which can be deployed as needed, for example, as new users are added to a talkgroup (*e.g.*, police force), and which offer reliable and robust communication using only the required features and functionality. Unnecessary features like recorders in each police officer's radio would be prohibitively expensive for most government agencies. Outfitting a police force with all new expensive radios with specialized functionality is normally not feasible, and radios are often be replaced on an as-needed basis, so availability of standardized "commercial off the shelf" type user equipment (*i.e.*, COTS) is generally a requirement. In other words, a POSITA understands that economically feasible multi-party communication systems require user radios without complex hardware for unnecessary bells and whistles, which limits these user radios to only using a *single* multi-party communication channel, as referenced in Ohel.

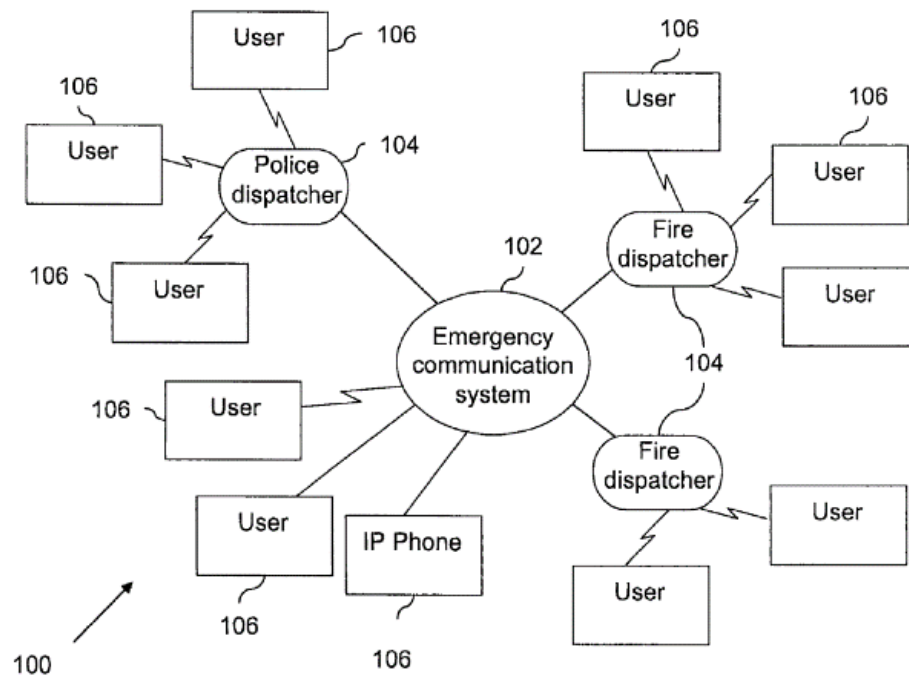
54. In view of this reality, Ohel's system provides a major drawback. The radio or user equipment carried by every police officer (*i.e.*, communications unit 1) must have special, non-standard hardware to provide the functionality described as the invention in Ohel. Ex. 1004, [0005], [0009], [0070]. For example, Ohel explains that when a dispatcher performs overtalk, the officer's communications unit 1 would record an ongoing call over CDMA transceiver 5, and immediately switch over to listen to the dispatcher's overtalk on the APCO transceiver, which preempts the ongoing call. Ex. 1004, [0070]. So Ohel's invention is implemented in each

communications unit 1, which must have hardware that performs several ***non-standard*** actions for half-duplex communication, including recording an incoming and/or outgoing call on a recorder, and handling switching of which communication is “active.” Ex. 1004, [0065], [0070]. At the time of filing of the ’802 Patent, a typical half-duplex radio carried by a police officer was ***incapable*** of performing these actions because it did not include the hardware (*e.g.*, recorder) necessary to do so. So Ohel’s system requires each user’s radio to include specialized and non-standard hardware, which costs substantially more than standard issue user equipment. The Petition does not acknowledge or address this fact at all, much less consider how Ohel’s system differs from the system and methods disclosed in the ’802 Patent with respect to where the hardware sits that performs the relevant actions pertinent to the claims.

55. Also, Ohel’s system is directed to addressing the issue of overtalk within a ***single*** multi-party communication channel (*i.e.*, the dispatch channel). Ex. 1004, [0004]-[0005], [0009], [0048], [0070]. While Ohel discloses other channels sending or receiving messages simultaneously with overtalk on the dispatch channel, Ohel does not disclose that any of these other channels are ***multi-party*** communication channels. *Id.* Ohel does not even address systems including ***multiple multi-party*** communication channels or contemplate how its handling of overtalk on ***multiple multi-party*** communication channels would impact users

across the different entities using these multi-party communication channels. Given that Ohel is focused only on overtalk on a *single* multi-party communication channel, and not on overtalk in *multiple* multi-party communication channels, it makes sense that Ohel does not address issues that a dispatcher faces, and instead, only addresses issues that users face with their communication unit 1 when the dispatcher uses overtalk on the dispatch channel. The Petition is also silent on these issues.

56. The '802 Patent describes a communication system provided for management of messages received simultaneously on *multiple* different multi-party communication channels by prioritizing the messages and playing them in the order of priority. Ex. 1001, Abstract. Each multi-party communication channel is dedicated to a different entity (*e.g.*, police force or fire department) which includes *multiple users*, and an operator acts on the incoming messages. *Id.*, 1:15-21, 1:25-36, 6:53-56. The '802 Patent illustrates an exemplary environment in FIG. 1, which shows how dispatchers 104 interact with the emergency communications system 102 and with users 106. *Id.*, 3:52-57.



Ex. 1001, Fig. 1.

57. The dispatchers 104 are operators who handle communications for the users 106 on emergency communication teams. *Id.*, 3:59-62. Specifically, each emergency communication team is an entity that includes users 106, such as the police force or fire department. *Id.*, 3:59-62, Fig. 1. Each user 106 carries a radio which may be any suitable device, including a standard functionality half-duplex radio. *Id.*, 3:67-4:1. The dispatchers 104 respond to emergency messages received on different multi-party communication channels from the users 106 in different entities, which may be received simultaneously. *Id.*, 3:59-63. As discussed above, this creates confusion for the dispatcher or operator when hearing garbled speaking caused by overlapping messages received on different multi-party communication channels from the users 106 in the entities or causes loss of messages when one or more of the multi-party communication channel(s) are muted. *Id.*, 1:25-36, 6:53-56. To address these problems, the '802 Patent enables the operator to hear messages from the entities clearly, without losing muted messages, by playing a higher priority message while saving a lower priority message to be played at another time. *Id.*, 1:62-2:9.

58. A POSITA understands that dispatchers and operators are not users and not part of an entity. As explained above, and as understood by Ohel, an entity, and the multiple individual users which make up the entity, communicate on a *single* multi-party communication channel. A dispatcher or operator who is hearing

multiple multi-party communication channels is not a user, nor part of any entity with a dedicated multi-party communication channel of the '802 Patent. Ex. 1001, 1:22-35. No disclosures in Ohel or the '802 Patent suggest otherwise. To consider Ohel's dispatcher as an entity, or a user within an entity, would be **contrary** to Ohel's acknowledgement of the reality of the relevant communications systems that **multi-party** communication occurs on a **single** multi-party communication channel.

59. Also, a POSITA understands that the operator hearing garbled messages due to crosstalk from the different entities would not attempt to solve this problem by using overtalk. If the operator were to use overtalk here, an incoming message being garbled will no longer be heard by the operator (regardless of whether it is recorded or not), but importantly, all of the users on that multi-party communication channel will be **unable** to carry on in real time with that entity's communications because the operator has taken floor control. In contrast, when the operator of the '802 Patent mutes an entire multi-party communication channel, the users in the entity **carry on** with their communications as normal in their multi-party communication channel because they maintain floor control, while the operator hears a different entity speaking on a different multi-party communication channel without any garbling.

60. Muting an entire multi-party communication channel is very different from overtalk cutting off one user within a **single** multi-party communication

channel. The hardware required to enable Ohel's solution of recording the cut off officer's communication would be used by *every officer* in Ohel's police force. Accordingly, to the extent Ohel's purported solution could arguably provide a similar result as the '802 Patent's system and method, the purported solution would require many specialized hardware units, each with Ohel's "multiple channel data recorder" outfitted to the entire police force, each at significant cost. In contrast, the '802 Patent allows for police officers to use standard issue radios, which do not require any hardware or software upgrades, while only requiring the hardware implementing the invention to be used by the operator.

61. A POSITA understands that the novel functionality of the '802 Patent is provided by hardware used by the operator, rather than hardware in the users' radios. This makes sense because the operator in the '802 Patent is the one dealing with the problems of garbled speech from different multi-party communication channels or losing messages when muting one multi-party communication channel in favor of another. In contrast, the dispatcher of Ohel does not experience this problem since Ohel is directed to a *single* multi-party communication channel. Having the hardware performing the novel functions being located at the operator (rather than in the user equipment) makes the '802 Patent's technology scalable, since, even as more users are added, minimal additional cost per user is required. As discussed above, Ohel's system requires that each user have a specialized radio to

perform recording and switching between different channels, so Ohel's system is not scalable. This is a major practical advantage of the '802 Patent over the system of Ohel, and the Petition and Mr. Williams do not address these technological differences, advantages and disadvantages, or the problems addressed, at all.

62. The advantages of allowing an entity to *carry on* with communications on any *standard radio device* on a dedicated multi-party communication channel while being *muted* by the operator in the '802 Patent, stand in stark contrast to the disadvantages of Ohel's system, in which each user's *non-standard radio device* records messages during overtalk, but *disables* the entity from communicating when the dispatcher uses overtalk on that multi-party communication channel. In my opinion, a POSITA would not modify Ohel's system as discussed above to arrive at the claimed system and methods of the '802 Patent, when considering the many distinctions laid out above, and the Petition fails to put forward any explanation of how or why a POSITA would overlook the issues above and conclude otherwise.

63. With this explanation of the technology of the '802 Patent and Ohel in mind, as discussed next, the Petition's specific analysis incorrectly identifies who are the claimed "different entities" of the claim 1 of the '802 Patent.

64. The Petition appears to imply that Ohel's dispatcher as an entity. Petition, 16-18. The hesitancy to firmly indicate who or what in Ohel is the first entity may be due to the Petitioner knowing its assertions miss the mark. Regardless,

the Petition identifies “individual officers and the police dispatcher” as the claimed “different entities” of element 1[a]. Petition, 16. The Petition also states, “the first dedicated channel being dedicated to receiving messages from a first entity [*e.g.*, simplex unit 2 set to a dispatch channel].” Petition, 16-17. Although a dispatch channel is not a dispatcher, by identifying the police dispatcher as one of the claimed “different entities,” the Petition appears to equate the claimed first entity in element 1[a] to Ohel’s police dispatcher, stating a “POSITA would have understood that Ohel’s ‘dispatch channel’ is a channel dedicated to communications with a dispatcher.” Petition, 18, *citing* Ex. 1002, ¶127.

65. As explained above, a POSITA would understand that Ohel’s dispatcher corresponds to the ’802 Patent’s operator and is not a claimed entity in the ’802 Patent. And a POSITA would understand that Ohel’s police officers talking on its dispatch channel collectively correspond to a claimed entity communicating on a first dedicated channel of the ’802 Patent, and that Ohel’s individual police officers correspond to the individual users 106 which would make up the first entity of the ’802 Patent. But, as noted above, dispatchers and operators are different from the claimed entities, which include the users (*e.g.*, officers in a police unit). With this understanding, Ohel’s dispatcher cannot be considered to be an entity as used in the ’802 Patent. Accordingly, the Petition’s reliance on the dispatcher as either a first or second entity in 1[a] or 1[b] is improper. Petition, 16-18. Likewise, Ohel’s

individual officer cannot be considered as an entity, which requires multiple users, so Petition's reliance on "another specific user" as an entity in 1[a] or 1[b] is improper. Petition, 20.

66. Also, as discussed above, Ohel does not address systems including ***multiple multi-party*** communication channels. With the proper understanding that Ohel's dispatcher is not an entity, nor is a dispatcher a user in an entity, Ohel cannot be considered to disclose both the claimed first dedicated channel and the second dedicated channel of claim 1. While it is fair to say that Ohel does disclose ***one*** entity (*i.e.*, the police officers) communicating over a ***single*** multi-party communication channel (*i.e.*, the dispatch channel), there is no second entity communicating over a ***second multi-party*** communication channel in Ohel. Ex. 1004, [0004]-[0005], [0068]-[0070]. Besides the dispatcher or police officers, the Petition does not put forward any potential second entity to correspond with the claimed first and second entities.

67. Therefore, the Petition and Mr. Williams do not establish that Ohel teaches elements 1[a] and 1[b] which state "receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the ***plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity***; receiving a second message on a ***second dedicated channel being dedicated***

to receiving messages from a second entity from amongst the plurality of channels at the communication system.”

B. Claim 5

68. The Petition states that “a POSITA would have understood prioritization of messages based on use of the APCO transceiver to be prioritizing received messages based on being audio-type messages.” Petition, 35. I disagree with the Petition’s conclusion that a POSITA would understand Ohel’s use of an APCO transceiver as prioritizing messages based on being audio-type messages.

69. I understand claim 5 to limit the way in which prioritizing of incoming messages is performed, to prioritizing based on the type of message received being either an audio, video, text, or image type message. Claim 5 depends from claim 4, which specifies the predefined parameter is a type of the received message, and claim 5 specifies the types to the group of audio, video, text, or image. For example, in a system where an audio message is prioritized over a video message, this would be prioritization based on the type of message (*i.e.*, audio or video). In another example, a text message could be prioritized over an image message. Nothing in Ohel discloses or teaches that any of these claimed messages types (*i.e.*, audio, video, text, image) are used to determine priority of any message over any other message.

70. The Petition implies that the type of message being “audio-type” is what causes one message to be prioritized over another. Petition, 35. This is not

supported by Ohel's description of the prioritizing of messages. Ex. 1004, [0070]. The type of message being *audio* is not why Ohel prioritizes one message over another. Instead, Ohel describes that when an officer's message is interrupted by a superior user's message, a predefined protocol forces the officer to listen to the dispatcher. *Id.* The interrupted message has lower priority than the superior user's message. In other words, a dispatcher's communication has higher priority than an officer's communication. The parameter which dictates which message has priority over the other is whether the message is an officer's communication or a dispatcher's communication. Ohel's prioritization has nothing to do with the fact that the dispatcher's communication is an "audio-type" message. This is evident from the fact that the officer's call is also an "audio-type" message.

71. The Petition does not address this issue, and its conclusion is contrary to the clear teachings of Ohel. In my opinion, POSITA would *not* have understood Ohel as prioritizing messages "based on the use of APCO transceiver," which happen to be audio-type messages. Petition, 35. Instead, a POSITA would understand that Ohel prioritizes the communications based on whether they are dispatcher or officer communications. Ex. 1004, [0070]. Based on this incorrect conclusion of how a POSITA would interpret Ohel, I disagree with the Petition's argument that Ohel discloses or renders obvious claim 5.

C. Claim 7

72. The Petition states that an operator receives a time of receipt as required by claim 7, citing display 35 of Ohel's Figure 2. Petition, 36-37. Initially, the cited display 13 is part of communication unit 1, which is the police officer's communication device. Ex. 1004, [0067]-[0068], Fig. 2. Even if, at the time of a dispatcher's message interrupting an officer's message, and a time stamp were displayed on the communication unit 1, the *officer* would be informed of the time stamp by the display 13, *not the dispatcher*. Ex. 1004, [0070], Fig. 2. As explained above in relation to claim 1, the dispatcher of Ohel corresponds with the operator of the '802 Patent as recited in claim 7. Also, there is no disclosure in Ohel that the dispatcher uses the communication unit 1; instead, Ohel discloses that the users of communication unit 1 are police officers, and refers to this unit as "the *officer's unit 1*." Ex. 1004, [0067]-[0068], [0070]. For at least this reason, I disagree that Ohel discloses informing an operator of a time of receipt as asserted in the Petition and Mr. Williams.

73. Also, in my opinion, it would not be obvious to inform an operator of a time of receipt of a message as recited in claim 7. First, the Petition does not explain *why* Ohel's system would inform its *dispatcher* of a time stamp, nor why a POSITA would view this as obvious. Ohel's interruptions of messages occur *when the dispatcher's message* is transmitted. Since the dispatcher is the one transmitting the

message, the dispatcher would innately know when the message is being transmitted and a POSITA would not see any need for the dispatcher's console to show a time stamp reflecting this information. There is no suggestion in Ohel that informing its dispatcher of the time a dispatcher transmits a message would be helpful or desirable, and I see no motivation for doing so. The Petition does not point to any disclosures of what Ohel's dispatcher console would inform the dispatcher of and has not presented any reasons why Ohel's system would be modified to inform the dispatcher of time of receipt of the message as recited in claim 7.

D. Claim 11

74. The Petition states the Ohel discloses "storing the message having lower priority in a queue." Petition, 41. However, Ohel does not disclose a queue, and certainly does not disclose storing any particular message in a queue. What Ohel does disclose is that communication unit 1 includes a memory 10, which is described as a dynamic memory device that permits substantially simultaneous recording and playback, and when the communication unit 1 detects a superior user's transmission, the police officer's message is interrupted and recorded in the dynamic memory device. Ex. 1004, [0049]. Ohel explains that "the memory 10 can be a single unit, as shown in FIG. 2, or can be individual separate units 10, for example, one for each of the seven transceiver units 2 to 8." Ex. 1004, [0064].

75. However, a queue is not a dynamic memory device. A queue is a

specific type of component which stores data, *e.g.*, messages, data items, or the like, in an *ordered* or *sequenced* fashion. Ohel does not disclose any queue, and the Petition does not point to any actual disclosure of a queue. Ex. 1004, [0002]-[0072], Petition, 41-42. Nothing about the description in Ohel regarding the memory that records the messages indicates that a queue is used, or could be used, in the system of Ohel to store messages.

76. The Petition states that a “POSITA would have understood that a queue is one well-known, practical way to store multiple messages in a single memory device such as the dynamic memory device.” Petition, 41-42. While a queue is indeed one well-known way to store data, that does not make a queue suitable for all applications where data is stored. A POSITA understands Ohel’s system provides *any* user the ability to *select play back* at *any* time, starting at *any* point in a message and can be provided “*immediately after* the user stops transmitting *or upon* the *user’s manual command.*” Ex. 1004, [0017], [0048], [0050], [0052]. In other words, the *user* has full control of *which messages* are played, and *when*, and *from what starting point* in a conversation which was interrupted—Ohel’s system provides play back that is *user-selectable*.

77. In a user-selectable message playback system, using a queue is *unnecessary*, and would likely be computationally *less efficient* than a typical dynamic memory, when such a queue’s order is updated in response to user

selections of messages which were ordered differently than the data's order as stored in the queue. It makes sense that Ohel discloses the use of dynamic memory rather than the use of a queue, since the dynamic memory should be more efficient handling Ohel's *user-selectable* play back requests.

78. Accordingly, a POSITA would understand that storing Ohel's messages in a queue would be contrary its user-selectable play back features. Also, the Petition and Mr. Williams do not explain in what order the messages in Ohel would be stored into the queue. Because a queue has an order for the data stored in the queue, there must be some assignment process or rules which dictate how the data is ordered or sequenced to be stored in the queue for later use. Of course, Ohel provides no disclosure on any such assignment process. But the Petition does not address this issue and does not provide any suggestion of how the messages would be ordered or sequenced in the queue. Petition, 41-42. Given the user-selectable play back features of Ohel, it is not apparent how that assignment process would work, nor is it apparent based on the arguments in the Petition why a POSITA would use a queue with Ohel's system.

X. GROUND 2: CLAIMS 1-7 AND 11-21 ARE NOT OBVIOUS OVER NIGAWARA

A. Claim 1

79. I disagree with the Petition's and Mr. Williams' conclusions that Nigawara teaches the elements of claim 1 for several independent reasons, including

the Petition's incorrect mapping of Nigawara's elements to the claim elements of the '802 Patent, and the incorrect timing of Nigawara's process to the claimed process. Specifically, in my opinion, similar to the issues addressed above, Nigawara's plant site is not an "entity" as used in the '802 Patent, so the Petition fails to establish two different entities as claimed. Also, Nigawara's timing of determinations regarding priorities of first and second messages relative to storage of these messages is wrong. Although my analysis below references elements of claim 1, the analysis also applies to the other independent claims which include the same or similar elements.

80. I lay out several important differences between the '802 Patent and Nigawara, including that the problems addressed and the contrasting solutions between the '802 Patent and Nigawara. To highlight these differences, I provide pertinent background and context to understand the differences between Nigawara and the '802 Patent. First, I address Nigawara's system, then turn to the '802 Patent's system, highlighting key differences which establish that Nigawara's plant site is not an entity as claimed, and also explaining why Nigawara's determination cannot occur prior to storing as claimed, and noting various points which seem to have bearing on whether or how a POSITA would find modification of Nigawara obvious to arrive at the claims of the '802 Patent.

1. Nigawara's Plant Site Is Not An Entity As Used In The '802 Patent

81. The Petition asserts that Nigawara's plant sites A-N disclose the claimed entities. Petition, 56-58. Specifically, the Petition relies on plant site A for the claimed first entity, and plant site B for the claimed second entity. Petition, 56, 59. However, I disagree that the plant sites of Nigawara correspond with the claimed entities for the reasons explained below.

82. Nigawara's general technological context and the problem addressed is explained in the background of the invention. Ex. 1007, 1:5-37. Nigawara's system uses voice message to announce changes in operating conditions of a plant (*e.g.*, thermal power plant), which intends to improve upon an existing announcement system which automatically announced messages so "operators working in the plant can be immediately informed of the occurrence of the abnormal condition or the change in the operating conditions." Ex. 1007, 1:6-24. In the previously existing system, different units of the plant would each need to have their own independent voice message announcing device, which operating independently from one another, caused voice messages to be announced simultaneously. Ex. 1007, 1:27-32.

83. This presented a problem where "the announced voice messages mix with one another to an extent that the individual voice messages cannot be distinguished from one another by the operators." Ex. 1007, 1:34-37. The goal of Nigawara is to announce voice messages sequentially without the voices being

intermixed. Ex. 1007, 1:34-49. The reason this problem occurred in the pre-existing system is that within different units or plant sites, within the plant, there was no cooperative operational control between users of the system, whether those users were individual workers or automated devices sending and receiving voice message announcements, or some combination of workers and automated devices.

84. Specifically, Nigawara states that this problem arises because “[w]hen these voice messages announcing devices operate *independently* of one another, voice messages pertaining to different operating conditions are announced *simultaneously due to the absence of operational harmony* among these devices.”

Ex. 1007, 1:34-37. A POSITA understands the key issue here is that in a communication system with *operational harmony*, the problem of users hearing mixed voice messages is avoidable, but as noted by Nigawara, where there is an *absence of operational harmony*, the mixing of messages is a problem. This is the problem Nigawara intends to solve, and a POSITA understands that the solution it provides works to avoid intermixing of voice messages only because Nigawara’s plant is a single entity under a common operational control with *known set of inputs* (e.g., prerecorded voice messages, predefined operational modes), so the different plant sites within the plant are working in *operational harmony*. Ex. 1007, 1:29-49, 3:22-28, 4:39-6:14. A POSITA would understand that Nigawara’s solution would *not work across different entities* where an *absence of operational harmony* exists,

for example, where two groups of users who are competing for resources or are ignorant of the other group's operational status or procedures, and different, incompatible message formats, or other unknown, unexpected inputs would be provided.

85. A POSITA understands that the above discussed scenarios may be categorized into two types of communication systems, closed systems or open systems. In a closed communication system, Nigawara's operational harmony is achievable due to the users of the system implementing common operational procedures, where users within the entity (*e.g.*, a power plant) can be apprised of the entity's operational status and can conform to a common set of rules for communicating on the entity's dedicated multi-party communication channel such that the possible system inputs are known. A POSITA understands that operational harmony may exist in a closed system where all types of inputs (*e.g.*, prerecorded voice messages, predefined operational modes) can be accounted for. On the other hand, in an open communication system, a communications channel receives messages from multiple different entities that are not under a common operational control, so all possible system inputs are not known, and operational harmony is absent. This is because the multiple different entities may have competing interests, may have different communication procedures, and/or may simply be ignorant of the other entity's communications. These concepts are applicable to both

Nigawara's and the '802 Patent's systems and methods.

86. Nigawara's invention works in the context of a closed system, where within a single entity, *i.e.*, the plant, each of the plant sites (A-N) use a common operational procedure of sending voice message signals from their voice message signal generation units 2 for classification and ordering for announcement within the plant according to a predetermined set of priority rules. Ex. 1007, 3:30-33, 4:39-6:14, Figs. 1, 2. Nigawara's incoming voice messages received by the message announcing order selection unit 3 are all ***prerecorded messages***, each one of which falls within a ***predefined category*** as illustrated in Table 1. Ex. 1007, 3:22-28, 4:39-5:29. Also, at any given moment, each plant site is in one of various ***known stages or modes of operation***, as illustrated in Table 2. Ex. 1007, 6:1-14. So there are a ***known set of possible inputs*** that determine priority of messages (*i.e.*, message type, plant site operation mode) from a known set of users, *i.e.*, from the plant sites providing messages. The predetermined set of rules for ordering voice messages can be set by the plant in whatever way best suits the plant's needs to manage any scenario that may arise.

87. As Nigawara explains, "[n]eedless to mention,...the voice message provided by any one of the voice message output signals 6 corresponds to one of the seven kinds of voice messages described above." Ex. 1007, 5:24-27. And each of these pre-recorded messages is received from plant sites which are part of the same

entity, *i.e.*, the plant, where each message's content, regardless of which plant site it is from, is handled the same way, according to the same set of rules set forth in Table 1 and Table 2. So, although the message announcing order selection unit 3 may receive message signals from different plant sites simultaneously, as Nigawara explains, even when there are messages of the same priority of Table 1, "the priority order of those voice messages can be *easily* determined." Ex. 1007, 5:65-68. This easy handling of all incoming messages is because of the nature of Nigawara's system being a closed system which has *operational harmony*.

88. In the '802 Patent, each entity's dedicated channel operates as a closed system, in which, as explained above, messages are received only from users in the entity and the operator associated with the entity, but not from users in a different entity. Ex. 1001, 3:55-62; *supra* section IX.A. However, the operator in the '802 Patent operates in an open system, hearing messages from *multiple* different entities' multi-party communication channels, which causes the interference the operator hears when users from different entities speak simultaneously. This is the issue that the '802 Patent addresses: interference that the operator who is sitting between two different entities is hearing. Ex. 1001, 1:22-27, Fig. 1; *supra* section IX.A. This problem only exists for the operator since the operator sits outside of the closed systems of each entity. Inside each entity is a closed system, but since the operator is receiving messages from multiple *different entities* which may be competing for

the operator's responses or resources, and one entity cannot hear the other entity's messages, the operator of the '802 Patent is forced to deal with messages received in the *absence of operational harmony*. The operator of the '802 Patent may need to make difficult decisions of which entity to prioritize or mute, based on unforeseeable messages of unknown importance from the different entities, unlike Nigawara's easy handling all incoming messages due to their pre-known nature (*e.g.*, prerecorded voice messages, predefined operational modes). Accordingly, a POSITA understands that the operator of the '802 Patent is *not* analogous to any user or "operator" in Nigawara's plant, regardless of what plant site they work in.

89. Based on the above, a POSITA would understand that Nigawara's plant sites are not different entities of the '802 Patent, and if anything, Nigawara's plant would correspond to a single entity, while plant sites and the workers in the plant sites would correspond with users within the entity that create and communicate messages with each other in operational harmony. Nigawara's problem of intermixed voice announcements across the plant affects the operators or workers in plant sites that create or receive messages, rather than an operator, as disclosed and claimed in the '802 Patent. Nigawara does not describe or suggest any person which is an operator or dispatcher of the '802 Patent. Mr. Williams admits that Nigawara does not disclose a dispatcher. Ex. 2005, 133:12-13. The Petition's argument conflates the operator of the '802 Patent with the "operator" of Nigawara, who is

just a plant worker working at a plant site.

90. As explained above, the '802 Patent's operator sits outside of the closed systems of each entity, and hears messages from multiple different multi-party channels, which are not in operational harmony with each other. Ex. 1001, 1:22-27, Fig. 1. On the other hand, all of Nigawara's "operators" are working in some plant site within the plant. So even if Nigawara's plant sites could be considered as individual entities (even though they are not entities as used in the '802 Patent), none of Nigawara's operators would correspond to the '802 Patent's operator which operates in an open system, facilitating communication for multiple entities' closed communication systems, since all of Nigawara's plant sites and "operators" only communicate in a closed system within the plant, *i.e.*, within a single entity.

91. Regardless, the management of Nigawara's messages with the plant does *not* present the problems addressed in the '802 Patent, where the operator receives incoming messages from different entities. The differences between open communication systems and closed communication systems help illustrate key distinctions. In a closed system, the predetermined set of rules can be set by the entity, so all users in the entity operate under common operational control. This contrasts with the situation an operator faces, where two entities have different operational rules that may clash with each other and take no account of any other entities' rules or procedures—operating in an absence of operational harmony.

92. Also, in a single entity, for example, in a police force, the officers generally *moderate* their communications on their dedicated communication channel because each officer (*i.e.*, each user) hears all other voice messages on that dedicated communication channel based on the half-duplex configuration of the channel. *See*, Ex. 1001, 1:13-25; Ex. 1004, [0004], *supra* section IX.A. The officers listening to the flow of the conversation will self-moderate their own messages, waiting to transmit when an appropriate time arises based on the level of urgency or importance of their own communication, so the conversation flows in an orderly fashion. This self-moderation is possible because the officers communicate with operational harmony, in a closed communication system, but this does not work in an open communication system, which the operator in the '802 Patent faces. When two different entities are not hearing each other, it is impossible to take account of some unheard urgent message from the other entity, leading to overlapping messages that the operator hears. As explained above, when different entities (*e.g.*, a police force, a fire department, a school) communicate within their own *dedicated channels*, the users of one entity *cannot* hear the voice messages of the other entity. *See*, Ex. 1001, 1:13-25; Ex. 1004, [0004]; *supra* section IX.A. In these circumstances, the users in either entity *cannot moderate* their own voice messages based on any messages from the other entity, but the operator sitting between the entities hears all the messages in what may be a chaotic absence of operational

harmony that results in interference or garbled speaking resulting in operator confusion. Ex. 1001, 1:13-18, 1:32-36, Fig. 1.

93. In these scenarios, the operator of the '802 Patent must decide whether to mute channels or deal with the confusion caused by the overlapping messages from different entities, which cannot hear each other. Ex. 1001, 1:22-36. The reason for this problem, as confirmed by Mr. Williams, is “when voice message announcing systems operate independently, voice messages are announced simultaneously due to the *absence of operational harmony* among the devices.” Ex. 2005, 125:12-16. This problem occurs in open systems, but this is avoidable or not a problem in closed systems, where users operate with common operational control and all possible system inputs can be known and able to be suitably handled, as dictated by the entity dictating operational control.

94. In Nigawara, the plant is a single entity. An operator of the '802 Patent that is only hearing communications from *just one entity* never has the problem of needing to *mute* a channel. The problem of the '802 Patent *only exists* when an operator is dealing with *multiple* different entities (e.g., police force, fire department, school), such that messages are received from different entities simultaneously. In Nigawara, all the users or “operators” are within a single entity, under a common operational control, in a closed communication system, where the universe of systems inputs is known so all received messages can be prioritized based on a

predetermined criteria set by the entity. So Nigawara *never* faces the problem addressed in the '802 Patent, and Nigawara's solution is accordingly completely different from the solution of the '802 Patent.

95. Nigawara's solution is that the plant, being a single entity with common operational control, manages its communications so that at each plant site, voice message announcements occur sequentially based on a predefined set of priority rules which automatically classify and order incoming messages, for example, according to Tables 1 and 2. Ex. 1007, 1:40-55, 3:30-33, 4:39-6:14, 6:36-42 Figs. 1-4. Nigawara can do this because there is no risk of confusion caused by messages from different entities that are not under common operational control, *i.e.*, since Nigawara is not an open system where unforeseeable incoming messages of unknown importance could be received at any time from multiple different entities. Unlike the operator in the '802 Patent, Nigawara's system has no risk of losing information since all messages are received from within one entity, and are stored, classified, and ordered according to the plant's predetermined set of rules. Ex. 1007, 4:39-6:14, 6:36-42. In other words, Nigawara makes the plant sites work in operational harmony—a POSITA understands that this is *completely contrary* to the solution of the '802 Patent, where, because the different entities are separate entities, they *cannot* be made to work in operational harmony.

96. In relation to the '802 Patent, a POSITA understands that each entity

must have the ability to maintain autonomy, and the operator retains *full control* over the decision of *which entity to mute* when simultaneous messages are received. Ex. 1001, 1:27-29, 4:11-13, 6:53-56. This is *directly contrary* to Nigawara, where the message announcing order determination unit 11 completely *automates* which messages are played first based on *predefined rules*. In the '802 Patent, the operator is bound by no such rules, and this is important for operating in an open system, as the '802 Patent operator does, where unforeseeable incoming messages of unknown importance could be received at any time from multiple different entities, including new and unknown entities. Nigawara's system will not receive messages from some unknown entities, since all messages are received from the plant sites, which are part of the plant. Because the universe of incoming messages in the '802 Patent's system is not predefined, nor are the entities which may provide communications, as is the case in an open system, Nigawara's system would be *unsuitable* for use by the operator of '802 Patent.

97. For all the reasons above, Nigawara's single-entity prerecorded message system is simply incompatible with the problem, goal, and solution of the '802 Patent's claimed method and system. At best, Nigawara's system includes users at individual plant sites communicating on a *single* multi-party communication channel of a *single* entity, *i.e.*, the plant. In my opinion, in view of the above differences, a POSITA would not have any motivation to modify Nigawara's single-

entity communication system to arrive at the claimed systems or methods of the '802 Patent.

2. Nigawara Stores Messages Before Determining Priority And Selecting A Stored Message

98. The timing of operations required by claim 1's elements 1[c], 1[d], and 1[e] differs from the timing of message storage, priority determination, and message selection in Nigawara. Based on the plain meaning of the language of claim 1, in view of the specification, the prosecution history, and the agreements of the parties in the related district court litigation, a POSITA would understand the timing of claim 1's elements 1[c], 1[d], and 1[f] to have a required order which must occur, regardless of any earlier or later occurring, ongoing, or continuing process.

99. Specifically, a POSITA would understand claim elements 1[c], 1[d], and 1[f] as building on each other in a necessary order, requiring that element 1[c] occurs first, followed next by element 1[d], finally followed by element 1[f]. This is because the “**storing** at least one message... **based on the determination**” of 1[f] cannot happen before the “**determining which message... should be stored... based on... one or more priorities assigned** to the first and second message” of 1[d], which cannot happen before the “**determining one or more priorities**” of 1[c].

100. Before detailing how the claim language requires the specified order of elements, I first assess the specification, prosecution history, and related litigation agreed claim constructions. However, ultimately, the claim language speaks for

itself under the plain and ordinary meaning, and the other evidence described below confirms the meaning dictated by the claim language.

101. With respect to the specification of the '802 Patent, as illustrated with reference to Figure 3 and the supporting description, in a case where two messages overlap in time, priority is calculated at step 310, then a determination is performed to identify the message with the highest priority at step 312, and finally, depending on the priorities of the messages, a highest priority message is played and a lower priority message is stored in a queue at step 316. Ex. 1001, 4:54-67, Fig. 3. Also, with reference to Figure 4 and the supporting description, the priority determination occurs first between two messages (*e.g.*, radio messages B and C), then determination of which message has higher or lower priority occurs, followed by storage of the lower priority message (*e.g.*, radio message C) based on the determination of which message should be stored. Ex. 1001, 5:37-41, Fig. 4. The specification describes that “[a]fter computation and comparison of the priorities of B and C, it is found that the priority of radio message B is higher. ***Hence, radio message C is stored in the queue.***” Ex. 1001, 5:38-41. A POSITA would understand that this determination of which message ***should be*** stored ***causes*** that specific message to be stored in the queue.

102. Regarding the prosecution history, I found nothing that changed the plain reading of the claim language. But the Patent Owner did argue over the Cheng

reference in a way which is applicable to the Nigawara reference, stating that the “determining” feature was not found in Cheng because “messages are always stored in Cheng.” Ex. 1003, 62. So Cheng’s system *always* stores messages, which is like Nigawara’s system which *stores all messages when received*, regardless of their priority; and this feature was argued to distinguish over Cheng, highlighting the difference between a system which always stores messages without the claimed determinations prior to storing the lower priority message.

103. Also, the parties *agreed* in the related district court litigation that both of the claimed “determining” steps 1[c] and 1[d] must occur *before* the “storing at least one message” of element 1[f]. Ex. 2001, 12. And more recently, the district court has adopted an updated agreed claim construction relating to elements 1[c], 1[d], and 1[f]. Specifically, the district court states “(3) the ‘*determining which message*’ step [1D] must be performed *after* the ‘*determining one or more priorities*’ step [1C]; (4) the ‘*determining which message*’ step [1D] must be performed *before* . . . the “*storing* at least one message” step [1F].” Ex. 2004, 15-16. This district court adopted both the initial and updated claim constructions, all of which aligns with my interpretation of the claims under the plain and ordinary meaning of the language of these claim elements.

104. With the context of the specification, prosecution history, and agreed claim constructions in mind, the claim language of claim 1 requires certain elements

occur in order. Specifically, a POSITA would understand that the claimed “determining one or more priorities” of element 1[c] is the *first chronologically* in this sequence of elements, which occurs *before both* of the determination of element 1[d] and the storing of element 1[f], *as agreed by the parties and adopted by the district court*. Ex. 2001, 12; Ex. 2004, 15-16. The one or more priorities, once determined and assigned to the messages, do *not* need to be *determined again* since they are *assigned* to the messages. This determination is a discrete determination which occurs *once*. So a POSITA would understand that there is no need to perform element 1[c] on a continuing basis. Instead, element 1[c] is completed and the process moves on to element 1[d].

105. Also, a POSITA would understand that element 1[d] must occur *only after* priorities have been assigned in element 1[c], since it would be impossible to determine a message that *should be stored based on priorities assigned* to messages if those priorities had not yet been assigned. Likewise, a POSITA would also understand that determining which message *should be stored* in element 1[d] must occur *only before storing* at least one message in element 1[f], since once the message which *should be* stored is sent to memory and stored, this determination of “which message out of the *first* message and the *second* message *should be* stored” is *not performed again*, since that message is *already* stored based on the priorities assigned to the *first* message and the *second* message.

106. Additionally, as with element 1[c], the determination of element 1[d] is a discrete determination which occurs *once*, since either the first message or the second message has priority over the other, and this does not and will not change because the priorities are assigned. A POSITA understands that this determination of “*which message out of the first message and the second message* should be stored” is *only* performed *one time* because whichever one of the *first or second* messages is higher priority is played, and the other one is stored. Even in a case where new messages are received before the higher priority message is completed, the priority of the lower priority message (e.g., first message) will *never (again for a second time) be compared* against the higher priority message (e.g., second message). Instead, a determination against some *new third* message or a *fourth* message would be performed. Because there is *no* reason whatsoever to perform the determination in element 1[d] *again*, a POSITA would understand that element 1[d] is not performed on a recurring or continuing basis. A POSITA would have understood that the “determining” limitation is a discrete determination at the moment in time when it occurs, and it does not encompass *future determinations* to continue to store that message based on priorities assigned to that message, relative to any other messages’ priorities, whether arriving later in time or already existing. Instead, element 1[d] is completed, and the process moves on to element 1[f] (in addition to elements 1[e] and 1[g]).

107. Finally, after determining which one of the first and second message should be stored in element 1[d], the “storing...*based on the determination*” of element 1[f] occurs at last in the sequence of elements 1[c], 1[d], and 1[f]. A POSITA would understand that upon receiving overlapping messages, there are three points in time which must occur in chronological order corresponding to elements 1[c] as a first step, then 1[d] as a second step, and then 1[f] as a third step, in this order.

108. Additionally, the Institution Decision of the present proceeding refers to a similar issue to the timing of element 1[d] as discussed above, in relation to the scope of element 1[f]. Paper 11, 9-12. The Board states that “storing...is broad enough to encompass continuing to store a message...” where that message has lower priority than another message and “claim language also does not appear to otherwise specify that the message is not to be stored until its priority is assigned.” Paper 11, 11. These comments do not conflict with the required ordering in relation to determination in element 1[d] as explained above, since storing may indeed be an ongoing process, but the determination of element 1[d] is a discrete one-time occurrence which is limited to the instant in time in which it occurs, not an ongoing process. And the discrete occurrence of element 1[d], must occur after a discrete occurrence of element 1[c], and before the storing of element 1[f]. Nigawara fails to teach this, as explained below. Notably, the Board did not address the scope of

element 1[d].

109. For element 1[c], the Petition relies on Nigawara's "message announcing order selection unit 3 determining the priority order of announcement of the voice messages." Petition, p. 62. For element 1[d], the Petition states that "[a]s shown in FIG.2 below, when Nigawara's system encounters plural demands for voice message announcement, '[v]oice message output signals 6 from...the individual plants are *stored in a voice message signal memory 10*' and sent to the '*message announcing order determination unit 11,*' which determines the *priorities* of each message." Petition, 64-65. Finally, for element 1[f], the Petition relies on storing the messages in the memory 10. Petition, 69.

110. Notably, the Petition and Mr. Williams do not explicitly refer to the particular *timing or ordering* of what happens first in relation to *storing* messages or *determining priorities*, much less *determining which message, out of the first message and the second message, to store* and subsequently play. While at first glance, if the required timing is not considered, the Petition may seem to apply the elements of Nigawara onto claim elements 1[c], 1[d], and 1[f]; however, if anything, Nigawara's system works in the *opposite order* from what claim 1 requires.

111. Nigawara's system cannot perform these steps in the required order, at least in part, because Nigawara's system *stores* all messages *when received* from the voice message signal generation unit 2, rather than *after* determining priorities, as

shown in Figure 2 of Nigawara where the message signals take parallel paths. Ex. 1007, 3:66-4:5, Fig. 2. Element 1[d] is impossible for Nigawara's system, since the message announcing order selection unit 3, upon receiving message output signals 6, *sends these signals to message output memory 10* and to message announcing order determination unit 11, which selects a voice message 6a with the highest priority from memory 10 from all of the voice messages 6 stored in the memory 10. Ex. 1007, 4:16-20, 6:37:58, Fig. 2. In other words, the *storage* of message signals in memory 10 happens when the message signals are received, which is *not after* the message announcing order determination unit 11 has *determined priority* for these message signals. Also, since Nigawara's memory 10 simply stores the received messages (not in any particular order) and *waits* for a signal 100 from the message signal selection unit 101 to *identify* the message in the memory 10 with the highest priority, the memory 10 does *not* store its messages, which the Petition asserts as corresponding with the claimed *first* message and *second* message, *with assigned priorities*, or based on any *determination* based on assigned priorities, as required by element 1[d]. *Id.*

112. The Petition does not address the fact that Nigawara does not describe *assigning priorities* to the first message and the second message, and merely states that a "POSITA would have understood from announcements with a suitable delay (e.g., lower priority messages) would be stored in voice signal memory 10 for the

duration of that delay and subsequently announced.” Petition 63-65. Given that Nigawara’s memory 10 merely *waits* for a signal 100 from the message signal selection unit 101 to *identify* a message for announcement, a POSITA would not understand Nigawara’s message announcing order determination unit 11 as *assigning priorities* to the first and second messages, but even if this did occur after these messages were received and stored, a POSITA would not interpret Nigawara as suggesting any later determination *between* the *first* message and *second* message based on assigned priorities. Rather, a POSITA understands that in Nigawara’s system, once the *first* message or the *second* message is playing, and the other of the *first* message and the *second* message is stored, the determination of element 1[d] *between* the *first* message and the *second* message (even if Nigawara did *assign* priorities to the messages) will *not* happen, since there is no purpose to make such a determination. As noted above, element 1[d] occurs only one time, *after* element 1[c]’s assigning priorities to the first message and the second message and *before* element 1[f]’s storing. When Nigawara’s memory 10 receives the message signals that are output from voice message signal generation unit 2 before the message announcing order determination unit 11 *determines* any priority (and could not have yet *assigned* priority to any message), a message is not stored *based on the claimed determination* between the *first* message and the *second* message which is *based on the assigned priorities*, since no priorities were assigned. Ex. 1007, 4:16-20, 6:37:58,

Fig. 2.

113. This timing discussed above is required through the linking of elements 1[c], 1[d], and 1[f] by the elements being “based on” the prior determinations. Specifically, element 1[f]’s storing is based on the determination of element 1[d], which as explained above occurs once, and element 1[d]’s determination is based on the determined priorities of element 1[c], which also only occurs once. On the other hand, Nigawara’s process does not involve a sequence of linked determinations like the ’802 Patent recites in claim 1, but rather, involves *repeated independent selections* by the message announcing order determination unit 11 from all messages stored in the memory 10. Ex. 1007, 4:21-30, 6:54-58. Nigawara’s *storing* message signals in memory 10 *cannot* be “*based on the determination*” as required by element 1[f], where “the determination” is the element 1[d]’s “determining which message...should be stored...*based on...one or more priorities assigned*” of element 1[c]. The elements 1[c], 1[d], and 1[f] must occur in this order, regardless of whether further determinations of priority (*e.g.*, relative to new messages received while the higher priority message plays) occur later or the storing of the lower priority message continues for any length of time.

114. In summary, Nigawara’s relied upon process does *not* perform the “determining” of element 1[d], and certainly does not perform element 1[d] before the “storing” of element 1[f]. Thus, Nigawara’s process, which starts with storing

all received messages regardless of their priority, *violates the required ordering of claim element 1[d]*, and cannot be considered as teaching the claimed method with required order of element 1[d] in relation to elements 1[c] and 1[f] as discussed above. For at least the above explained reasons, Nigawara's process fails to teach or suggest to a POSITA the ordered elements 1[c], 1[d], and 1[f] of claim 1.

B. Claim 7

115. The Petition asserts that Nigawara discloses informing an operator of a time of receipt. Petition, 78. As explained above, the “operators” of Nigawara are not the operator of the '802 Patent. The Petition merely conflates the word “operator” as used in Nigawara with the operator of the '802 Patent which handles communications for the entities. Ex. 1001, 3:59-62. Nothing in Nigawara teaches any operator or dispatcher handling communications between entities' multi-party communication channels, and Mr. Williams even admits that *Nigawara* does not disclose a dispatcher. Ex. 2005, 133:12-13. The Petition's argument conflates the operator of the '802 Patent with the “operator” of Nigawara, who is just a plant worker working at a plant site and not managing “communications” between different entities. A POSITA would understand Nigawara's operator does not teach the operator of claim 7. The Petition's reliance on the “operator” of Nigawara cannot support its conclusion that Nigawara discloses informing an operator of a time of receipt as recited in claim 7.

C. Claim 11

1. *Nigawara Does Not Store Messages in a Queue*

116. The Petition relies on Nigawara “storing lower priority message in voice message signal memory 10 for a suitable delay as discussed in elements 1[c] and 1[f]” to disclose or teach the use of a queue as claimed in claim 11. Petition, 79-80. Specifically, the Petition states “[s]toring messages for *playback in priority order* discloses or at least renders obvious storing the message having lower priority in a *queue*.” Petition, 80. However, just because messages are *played back* in the priority order, does *not* mean they are *stored in a queue* in the priority order. What Nigawara does disclose is that when received, any voice message output signals 6 are stored in the voice message signal memory 10 and also sent to the message announcing order determination unit 11, which determines the priorities of each message, and then selects a voice message 6a with the highest priority from memory 10. Ex. 1007, 3:66-4:5, 4:16-20, 4:26-30, 6:37:58, Fig. 2, 3.

117. However, as discussed above, a queue is a specific type of component which stores data in an *ordered* or *sequenced* fashion. *Supra* sec. IX.D. Nigawara does *not* disclose any queue, and the Petition does *not* point to any actual disclosure of a queue. Ex. 1007, 3:68-4:2 4:25-30, Fig. 2; Petition, 79-81, *see also*, 63-67. Nothing about the description in Nigawara regarding the memory 10 that receives the voice message signals from the voice message generation units 2 indicates that

a queue is used in Nigawara's system.

118. As noted above, the Petition states that “[s]toring messages for *playback in priority order* discloses or at least renders obvious storing the message having lower priority in a *queue*.” Petition, 80. However, a POSITA would understand that Nigawara's voice message signal memory 10 *stores* all messages *when* the announcing order selection unit 3 receives any message from the voice message signal generation unit 2, rather than *after* determining priorities, as shown in Figure 2 of Nigawara where the message signals take parallel paths. Ex. 1007, 3:66-4:5, Fig. 2. Then, the voice message signal memory 10 *waits* for a signal 100 from the message signal selection unit 101 which *identifies* the message in the memory 10 with the highest priority after the message announcing order determination unit 11 determines priority for the message signals stored in the memory 10 and *selects* the message with the *highest* priority when a playing voice message announcement ends. Ex. 1007, 3:66-4:5, 4:16-30, 6:37:58, Fig. 2.

119. A POSITA understands that after a message finishes playing, Nigawara's message announcing order determination unit 11, *reassesses* priority order and selects the highest priority message to play back when a message finished “*at the end* of announcement of the first message signal.” Ex. 1007, 6:54-58, Fig. 3. In this context, a POSITA understands that the messages received could be stored in *any order* in the memory 10, but still played back in the order of priority, *without*

being stored in a queue.

120. A POSITA would understand that Nigawara's described process and structure, with immediately storing the messages upon receipt and prior to prioritization, and with selecting the highest priority message at the end of a message playing, does **not** teach storing messages in a queue. The Petition and Mr. Williams do not explain why Nigawara would **take extra computational steps**, e.g., reordering any messages stored in memory 10, when the system as described already selects the highest priority message for announcement after each played message, and does not explain what would be beneficial about changing Nigawara's existing system.

2. Nigawara Does Not Periodically Check Message Status of a Playing Message

121. The Petition states that "Nigawara discloses that 'the priority order is determined again according to the flow shown in FIG. 3' (periodically checking the status of the message being played) after the highest priority message is announced because 'the message announcing order determination unit 11 may have received one or more voice message signals 6' during the announcement." Petition, 80; *citing* Ex. 1007 6:55-57. I disagree that the message announcing order determination unit 11 is "periodically checking the status of the message **being played**" since the "priority order is determined again" **only after** the message has finished playing.

122. As explained above, a POSITA understands that **after** a message finishes playing, Nigawara's message announcing order determination unit 11,

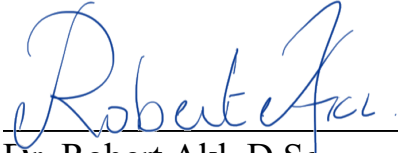
reassesses priority order and selects the highest priority message to play back when a message finished “*at the end* of announcement of the first message signal.” Ex. 1007, 6:54-58, Fig. 3; *supra* sec. X.E.1. In Nigawara, being a closed system with *prerecorded* messages, the message lengths are known, which is what allows for Nigawara’s system to *reassess* the priority order “*at the end*” of a played message. Ex. 1007, 3:22-28, 6:54-58. A POSITA understands that there is no need in Nigawara’s system to periodically check whether a prerecorded message is completed, since the run time of the message would be known. The Petition provides no reason why periodic checking would occur when it is unnecessary to know whether the message has completed or not. Petition, 80-81. In my opinion, Nigawara does not disclose or suggest periodically checking the status of a message being played as required by claim 11.

XI. ADDITIONAL REMARKS

123. I currently hold the opinions expressed in this Declaration. But my analysis may continue, and I may acquire additional information and/or attain supplemental insights that may result in added observations.

I hereby declare that all statements made are of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of the Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this proceeding.

Dated: June 25, 2024

By: 
Dr. Robert Akl, D.Sc.
Dallas, Texas